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COCCIDIOIDOMYCOSIS

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Coccidioidal infection is no longer of uncommon occurrence. Up to the present time most of the cases occurring in this country have been reported from California. Undoubtedly the disease is more prevalent in that state, but evidence is accumulating which would indicate that foci of infection exist in other sections of the country as well; and when one considers the extent of cross country travel now going on it becomes apparent how easily the disease can be disseminated. It behooves physicians in every case of pulmonic infection not readily diagnosed to consider Coccidioides. This infection was first recognized in 1892 by Wernike¹ of Buenos Aires. Since Rixford² reported the first American case from California in 1894, 578 cases³ with 278 deaths were recorded to June 26, 1939 in that state, the majority of cases coming from the San Joaquin Valley and Los Angeles County. Only an occasional case has been reported from other sections of the country.

The disease is produced by a specific pathogenic fungus, *Coccidioides immitis*. The organism occurs in two forms or cycles: one, the parasitic form, found in infected tissue; the other, the vegetative form, found in culture and presumably in nature. In infected tissue and sputum the organism appears as a spherule, varying from 5 to 60 microns in diameter and having a highly refractile, double-contoured capsule. The spherule form is presumably not transmissible, as man to man or animal to man infection is unknown. On suitable culture mediums, hyphae are formed which bear chlamydozoospores that are easily transported through the air. It is the chlamydozoospores which, probably mixed with dust, gain access to the body tissues and produce the disease.

The *Coccidioides* fungus is known to infect cattle,⁴ sheep and dogs⁵ as well as human beings. No age is immune to the infection. The portal of entry, except in the occasional primary cutaneous lesion due to trauma, is the respiratory passages. The dissemination of the infection occurs through the blood and lymph streams and by direct extension from the primary focus. The disease may involve any organ in the body,

but the lungs, skin, bones, lymph nodes and meninges are most commonly affected.⁶ The incubation period is still in doubt, although cases in which the probable time of infection is known would indicate that it is between one and three weeks. Conditions suitable for maintaining the infectivity of the organism are found in places in which there is some rain and little cold, permitting easy distribution of the chlamydozoospores with the dry soil of the region. When one realizes that many areas of the dry Southwest meet these requirements, it becomes apparent that the possibilities for the maintenance and spread of the disease are considerable.

In 1938 Dickson⁷ published epidemiologic studies of coccidioidal infection which added much to the knowledge of this disease. He and his associates found that *C. immitis* infections, parading under the labels "valley fever" and "desert fever," are of common occurrence in the San Joaquin Valley of California. This generally acute infection involving the respiratory tract was considered by them as an early manifestation of the disease. It is characterized at the onset by signs and symptoms of a cold or influenza, and not infrequently of bronchopneumonia, and is followed in seven to fifteen days by an outbreak of erythema nodosum. Recovery in from three to six weeks is the rule. Some idea of the incidence of this "valley fever" type of infection is obtained from the fact that 354 cases⁷ were reported between January 1936 and May 1937. Among the 354 cases there was only 1 death. However, in other endemic areas this self-limited, acute infection with accompanying erythema nodosum does not occur with such high incidence or regularity. An explanation for this was given by Jacobson,⁸ who expressed the belief that the resident population of the San Joaquin Valley acquires an active immunity as a result of frequent exposure to small doses of chlamydozoospores, which presumably heavily infect the soil of that region. These are phases of the disease which only time and study will solve. From the literature and from personal observation I feel that, as in tuberculosis, the initial infection constitutes a primary-like complex which usually heals, and that secondary chronic progressive disease follows in a certain percentage of cases.

Coccidioidal disease is protean in its clinical manifestations, and its mimicry of tuberculosis and blastomycosis is such that a diagnosis can be made with certainty only by finding the characteristic spherules in the tissues, pus or sputum and confirming this discovery by culture and guinea pig inoculation.

A good routine diagnostic method is to concentrate sputum, gastric contents, or other likely material, from a suspected patient and examine the sediment in a wet

From the Desert Sanatorium of Southern Arizona.
Read before the New Mexico Medical Association, Albuquerque, May 29, 1940.

1. Wernike, R.: Ueber einen Protozoenbefund bei Mycosis fungoides, *Centralbl. f. Bakt.* 12: 856, 1892.

2. Rixford, E.: A Case of Protozoic Dermatitis, *Occidental M. Times* 8: 704, 1894.

3. State of California Department of Public Health: Personal communication to the author.

4. Davis, C. L.; Stiles, G. W., and McGregor, F. N.: Pulmonary Coccidioidal Granuloma; A New Site of Infection in Cattle, *J. Am. Vet. M. A.* 91: 209 (Aug.) 1937.

5. Farness, O. J.: Coccidioidal Infection in a Dog, *J. Am. Vet. M. A.* 97: 263 (Sept.) 1940.

6. *Coccidioides immitis* apparently does not involve the intestinal tract, but *Paracoccidioides brasiliensis*, which belongs to the same family, does.

7. Dickson, E. C.: Coccidioidomycosis, *J. A. M. A.* 111: 1362 (Oct. 8) 1938.

8. Jacobson, H. P.: Immunotherapy for Coccidioidal Granuloma, *Arch. Dermat. & Syph.* 40: 521 (Oct.) 1939.

preparation without staining for the typical *coccidioides* spherules. Part of the sediment is then cultured on Sabouraud's medium and part injected intraperitoneally and intratesticularly into guinea pigs. On culture, a white fluffy growth is obtained which is composed of mycelium and chlamydospores. In the inoculated guinea pigs, abscess formation and recovery of the diagnostic spherule is accomplished in ten to thirty days.

Clinical features of pulmonary infection are often those of a "cold" suggesting influenza and not infrequently pneumonia or tuberculosis. Cough and sputum, which may be blood stained, pleural pain, chills, fever, nocturnal sweats, loss of weight and strength, malaise, weakness and general debility are present in varying degrees. Tender, painful joints may be observed in early, acute infection. Blood eosinophilia and erythema nodosum, while not constant features of the cases I have seen, were observed and should be considered manifestations of coccidioid infection. An erythematous cutaneous rash, generalized or limited to the trunk, has been described by Faber and his associates⁹ and has been observed in several of my younger patients. The rash appears a few days after the onset of the acute

rate of 50 per cent. The percentages of patients with early acute infection who will die and of those who will go on to the chronic stage of the disease has not yet been determined.

A specific cutaneous reaction is obtained in infected patients. Coccidioidin, as prepared by Dr. Charles E. Smith of Stanford University School of Medicine, has been widely used. The technic is simple and similar to that used in tuberculin testing. One tenth cc. of a 1:1,000 solution is injected intradermally and the reaction determined in forty-eight hours. A positive reaction, like the tuberculin reaction, is accompanied with erythema and induration and sometimes vesiculation. If the 1:1,000 dilution test gives negative results, a 1:10 dilution is used. Syringes previously used for tuberculin testing must not be used for coccidioidin testing because false positive reactions are apt to occur. From observations and available data, it would appear that the reaction is specific, develops early in the course of the disease and persists indefinitely. In this community, several groups have been given cutaneous tests with interesting results. Out of 43 patients in the Southern Pacific Tuberculosis Sanatorium,¹² most

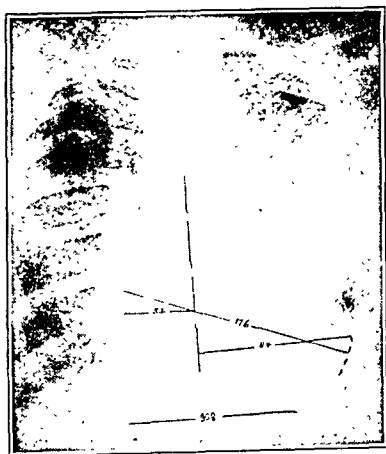


Fig. 1 (case 1).—Massive consolidation extending from the left hilus to the chest wall. The root of the right lung is dense, and there are bronchopneumonic foci scattered throughout the right lung. A portable x-ray apparatus was used.



Fig. 2 (case 2).—Diffuse fibrocavernous process involving the upper lobe of the right lung. The pulmonary roots are definitely thickened.

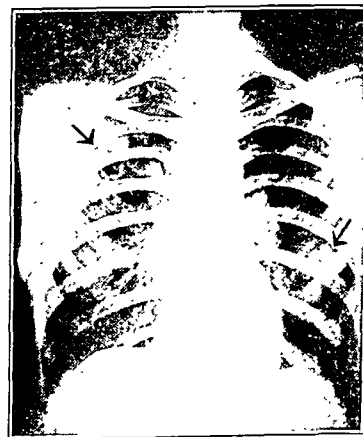


Fig. 3 (case 3).—A 3 by 4 cm. cavity in the right infraclavicular region with soft infiltration around the cavity and in the position of the middle lobe of the right lung. A soft, exudative lesion is present in the lower lobe of the left lung.

infection and usually disappears in seven to ten days. Roentgenograms of the chest show hilar thickening and dense shadows scattered through the pulmonary fields. Frequently tuberculosis is diagnosed on first examination. Cavitation¹⁰ occurs which, with the surrounding infiltration, is indistinguishable from tuberculosis until analysis of the sputum reveals the true nature of the infection. Gastric washings are frequently necessary to obtain material for study. Smith¹¹ has observed a patient in whom coccidioid pleurisy with effusion developed and another patient who had coccidioid peritonitis. Both recovered.

Recovery from the acute phase of this infection occurs commonly in a few weeks to a few months time. Occasionally a patient may die during the acute infection; in other patients there is dissemination of the organism to other parts of the body, which eventuates in a chronic, progressive disease, with a case fatality

of whom were not residents of Arizona, 10 per cent reacted positively. Among 60 patients at the Pima County General Hospital who were citizens of Arizona, there were between 20 and 30 per cent positive reactors. Of 141 Pima Indian school children given cutaneous tests by Dr. J. D. Aronson, of the Henry Phipps Institute of Philadelphia, 90 per cent gave positive reactions. I think these results definitely establish the presence of a focus in the Tucson area. In the accompanying table¹³ are listed the results of coccidioidin cutaneous tests from various sections of the country.

Treatment of this disease in general has been extremely varied, and no definite specific results have been noted from any drug therapy. Antimony and potassium tartrate given intravenously and colloidal copper given intramuscularly have been used without consistently satisfactory results. Specific vaccine therapy is being used, but no definite conclusions can be made as to the sustained effect. Sulfanilamide and

9. Faber, H. K.; Smith, C. E., and Dickson, E. C.: Acute Coccidioidomycosis with Erythema Nodosum in Children, *J. Pediat.* 15:163 (Aug.) 1938.

10. Farness, O. J., and Mills, C. W.: Coccidioid Infection, *Am. Rev. Tuberc.* 39:266 (Feb.) 1939.

11. Smith, C. E.: Personal communication to the author.

12. Permission to test these patients was given by Dr. C. A. Thomas, Tucson.

13. Compiled in collaboration with Dr. Mildred T. Woolley, Charleston, W. Va.

sulfapyridine are now being tried on slow healing and destructive lesions. However, not enough patients have been submitted to this form of treatment to enable one to state that it should be used in preference to other forms of therapy. Because primary coccidioidal infection appears generally to be benign and self limited, it would seem that rest in bed until all signs of the infection are gone would be most important and usually sufficient. For the case that tends to progress to the chronic granulomatous stage, drugs and vaccine therapy should certainly be tried.

REPORT OF CASES

CASE 1.—H. S., a white man aged 67, living within the city limits of Tucson, was admitted to the hospital April 12, 1932 with signs and symptoms of bronchopneumonia. Ten days before this he had contracted a severe cold. On the third day after admission the patient died. Autopsy revealed multiple bronchopneumonic foci throughout both lungs, many with necrotic centers, and an abscess measuring 2.5 cm. in diameter was present in the midportion of the left lung. *C. immitis* was recovered from the abscess and some of the bronchopneumonic foci. No foci of infection with *C. immitis* could be found in any other part of the body. A roentgenogram of the chest

disease process in both lungs. Several large cavities could be seen in the right apex.

CASE 3.—P. T.,¹⁰ a white youth aged 15, was attending school in Tucson because of the difficulty of controlling head infections at home in Michigan. About Dec. 15, 1936 he caught a severe cold. He went home for the Christmas holidays and returned early in January feeling well except for a slight productive cough. There had been no significant rise in temperature. There was no loss of weight noted. On Jan. 16, 1937 (fig. 3), a roentgenogram was made of the chest which showed a 3 by 4 cm. cavity in the right infraclavicular region. The white blood cell count was 10,500 with 27 per cent eosinophils. Repeated analyses of the sputum failed to reveal any acid-fast bacilli but did reveal typical coccidioides spherules. The tuberculin test gave negative results. The coccidioidin test gave strongly positive results. Before the diagnosis had been definitely established it was felt that the condition was acute tuberculosis, and the right lung was immediately collapsed by artificial pneumothorax. This procedure was abandoned on obtaining definite proof by culture and guinea pig inoculation that this was an instance of coccidioidal infection of the lungs. In retrospect it would seem that the procedure was good treatment and should have been continued. Nevertheless, the large cavity healed rapidly and a roentgenogram of the chest taken Aug. 8, 1937 showed it to be closed. The patient



Fig. 4 (case 4). Dense, soft infiltrations scattered throughout both lungs, especially on the right. The hilar shadows are increased. A portable x-ray apparatus was used.

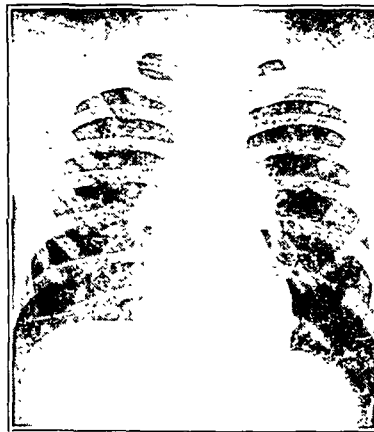


Fig. 5 (case 4).—Appearance one year later. Only a few scars remain at the site of the original lesions.



Fig. 6 (case 5).—A fine, diffuse infiltrative process about the small bronchi of both lungs together with minute parenchymal foci. The picture is that of a miliary process. A portable x-ray apparatus was used.

taken April 11 (fig. 1) showed a heavy, diffuse density extending from the left hilus to the lateral wall of the chest. The root of the right lung was dense, and there were scattered bronchopneumonic foci throughout the entire right lung. There was no history of erythema nodosum, nor was any increase in the eosinophils of the blood noted.

CASE 2.—C. C., a white man aged 46, a carpenter, had been a resident of Tucson since 1928. Since Oct. 1, 1936, when a roentgenogram of the chest showed a fibrotic process in the upper field of the right lung with honeycombing, the patient had been treated for pulmonary tuberculosis. No tubercle bacilli had ever been found in his sputum. After a "terrible cold" in November 1937 the patient had coughed and raised large amounts of purulent sputum, sometimes blood streaked. I first saw the patient in August 1938, at which time the sputum contained numerous coccidioides spherules. This discovery was confirmed by culture and guinea pig inoculation. A roentgenogram of the chest July 8, 1938 (fig. 2) showed a heavy, dense, fibrotic process with honeycombing, involving both lungs, especially the upper part of the right lung. The coccidioidin cutaneous test gave positive results. Eosinophilia was not noted. A history of erythema nodosum was not obtained. The patient had had diabetes mellitus since 1933. On Feb. 15, 1939 he died in diabetic coma. Autopsy revealed chronic coccidioidal granuloma of both lungs with scattered cavities and a coccidioidal abscess in the liver. A roentgenogram of the chest taken February 10, a few days before death, showed an increase in the

has continued in excellent health although the cavity has shown a tendency to reopen. Erythema nodosum did not occur. Interesting features were the absence of constitutional symptoms, the high eosinophilia and the early formation of a cavity with healing.

CASE 4.—T. G., a white youth aged 15, living on a ranch near Tucson, admitted to the Desert Sanatorium Feb. 9, 1938, complained of backache, headache and pain in the chest. His temperature was over 102 F. He coughed a little but could produce no sputum. A roentgenogram of the chest (fig. 4) showed heavy, fuzzy infiltrations through the midzone of both lungs. A generalized erythematous cutaneous rash appeared on the third day of illness and persisted for about a week. On February 24, nineteen days after the onset of the acute illness, the painful red nodules of erythema nodosum appeared on the arms and legs. Both tuberculin and coccidioidin cutaneous tests gave positive results. *C. immitis* was recovered from the gastric contents. The patient was kept in bed for a period of six months, after which he was permitted to resume his normal life. The pulmonic lesions gradually cleared, and a roentgenogram taken Jan. 16, 1939 (fig. 5) showed only a small residuum of scar at the site of the original lesions. The patient is entirely well at the present time.

CASE 5.—B. M.,¹⁴ a white woman aged 23, had been a resident of Tucson for three years. On Jan. 10, 1939 she was

14. Courtesy of Dr. R. K. Smith, Tucson.

delivered of a full term baby. She had not complained of any illness prior to this time. After delivery she had high fever, increasingly severe dyspnea and extreme weakness and died January 29. Her temperature was of the "picket fence" type and ranged between 98 and 105 F. daily. On January 18, eight days after delivery, a roentgenogram of the chest showed a fine, diffuse, infiltrative process about the small bronchi of both lungs together with minute parenchymal foci. Examinations of the sputum were negative for tubercle bacilli. On January 22 another roentgenogram showed an increase in the fine stippling throughout both lungs, especially in the lower lobes. The white blood cell count never exceeded 14,000, but the polymorphonuclear cells were consistently around 90 per cent. A roentgenogram (fig. 6) taken January 28 showed miliary seeding throughout both lungs. No erythema nodosum developed. The

Coccidioidin Cutaneous Tests in Endemic and Nonendemic Areas of the United States

Place Where Study Was Made	No. of Patients	Number Positive	Percentage Positive	
A. In Patients with Coccidioidomycosis				
San Francisco.....	12	12	100	
Los Angeles.....	26*	22	84.6	
B. In Tuberculous Patients (Cross Reaction?)				
Michigan.....	425	14	3	
			Controlled series; no history of residence in endemic areas	
Tucson.....	73	16	21.9	
Los Angeles...	228	37	16.2	
			Endemic areas	
San Francisco.....	177	49	27.5	
Oakland, Calif.....	267	46	17.2	
Philadelphia.....	117	7	5.9	
New York.....	300	0	0.0	
			No data as to residence	
C. In Nontuberculous Subjects in Areas Endemic for Coccidioides Immitis				
Place Where Study Was Made	Type of Persons	Number of Persons	Number Positive	Percentage Positive
Kern County, Calif. (San Joaquin Valley)	Workers in road camp	60	15	25
Kern County, Calif. (San Joaquin Valley)	School children	3,207	1,024	58.2
San Joaquin Valley, Calif.	Patients in hospital	184	37	21
Pima Indian Reservation, Gila Crossing, Ariz.	School children	141	127	90.1
Tucson.....	Patients in medical service	42	7	16.9
D. In Nontuberculous Subjects in Areas Not Endemic for Coccidioides Immitis				
Ann Arbor, Mich.....	University of Michigan students	70	0	0.0
Ann Arbor, Mich.....	Patients in medical service	76	1	1.31
San Francisco.....	Patients in medical service	260	11	4.23
Philadelphia.....	School children	15	0	0.0

* Four patients were in terminal stage.

patient died on January 29, nineteen days after the onset of the illness. Autopsy revealed multiple minute, grayish, abscess-like foci throughout both lungs in which abundant coccidioides spherules could be demonstrated. Coccidioides tubercles were also present in the spleen and liver. The case stands out because of its striking similarity to acute hematogenous miliary tuberculosis and because of the rapidly fatal course.

COMMENT

These 5 reports of coccidioidomycosis were selected from a series of 10 patients I have seen who incurred their disease in this community. With the exception of patient 1, all have been observed within the past three years, the period during which I have been actively interested in this disease. There can be no doubt that the incidence of infection with *C. immitis* is fairly high in this area; and why may not the same hold true for many areas that have the same climatic conditions? Also, when it is realized that 127 out of

141 Pima Indian school children and up to 30 per cent of the patients in the Pima County General Hospital reacted positively to the coccidioidin cutaneous test, further confirmation that the incidence of infection is fairly high is evident.

The cases selected for review represent all phases of pulmonary infection. Case 1 presented all the signs and symptoms of acute pneumonia. Case 2 was typical of the chronic, progressive phase of the disease known as coccidioidal granuloma. Case 3 represents the acute type of infection which progresses rapidly to cavitation and is indistinguishable from tuberculosis except in the laboratory. That coccidioidal cavities will heal is demonstrated in this case. Case 4 is typical of coccidioidomycosis seen so frequently in the San Joaquin Valley of California. The acute onset with fever, lesions with a roentgenographic appearance not unlike that of bronchopneumonia, and the accompanying erythema nodosum are classic for the "valley fever" type of coccidioidal infection described by Dickson.⁷ Case 5 represents a phase of the disease which I have not seen previously described. This case, with its rapidly fatal course, is no different from any given case of acute hematogenous miliary tuberculosis. The pregnancy may have played an important part in this case, as it so frequently does in tuberculosis.

In a recent paper, Cox and Smith¹⁵ reviewed 4 cases of arrested coccidioidal granuloma coming to autopsy in which factors other than the coccidioides were responsible for death. In all these cases the lesion uniformly consisted of relatively large central masses of partially calcified, caseous material with surrounding sharply outlined capsules of dense, hyalinized connective tissue. Coccidioides spherules were present in these healed lesions in every case. In 1 case cultures of an arrested lesion proved the presence of viable organisms fifteen years after known infection. This picture is not much different from that seen in healed tuberculous lesions.

Storts¹⁶ in his routine pediatric practice has observed a number of children with focal lesions in the lung which may well represent the primary complex of coccidioidal infection. These children are not ill, have positive coccidioidin and negative tuberculin cutaneous tests. The lesions may be located anywhere in the lung and tend to harden as time goes on. In 2 cases which have been followed since 1938 calcification is evident.

During the past year I have observed two dogs with spontaneous coccidioides infection. Their lesions were distributed chiefly in the lungs, liver and spleen. One cannot help speculating on the part these household pets may play in transmitting or disseminating infection.

There is yet much to learn about this disease, particularly the relationship between the acute, self-limited, primary infection and the later, secondary, chronic, highly fatal stage. I would urge physicians throughout the country to acquire an interest in coccidioidomycosis, which may be more prevalent than is realized and which has a not insignificant mortality rate.

CONCLUSION

Evidence is accumulating that foci for coccidioidal infection exist in areas outside California. Five cases of the disease occurred in Arizona and were apparently contracted in this locality. Of these 5, 3 were fatal, 2 during the acute stage of the infection and 1 in the chronic granulomatous stage.

15. Cox, A. J., and Smith, C. E.: Arrested Pulmonary Coccidioidal Granuloma, *Arch. Path.* 27:717 (April) 1939.

16. Storts, B. P.: Unpublished data.

OBSERVATIONS ON THE ETIOLOGY AND
TREATMENT OF MÉNIÈRE'S
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In the past fifteen years a great deal of thought and investigation has been directed toward the cause of Ménière's disease without any entirely satisfactory answer being forthcoming. Many theories have been propounded based on experimental and clinical studies, yet each, when put to the test of therapeutic response, has failed to give complete satisfaction even to its sponsors. The reason for this is, I believe, that always the search has been for one single cause which will suit all cases, whereas it may be that Ménière's disease is not a disease due to one cause but a syndrome which can be produced by at least two causes. I suggest that the characteristic syndrome is the result of a vasomotor disturbance which in one group of cases is allergic in origin and in the other is due to a vasospasm. This paper is an attempt to demonstrate the validity of this hypothesis.

THE MECHANISM

The disturbance, it is assumed, takes place in the inner ear, as Ménière predicated, for here, where cochlea and vestibule are in direct communication in the same closed endolymphatic system, is most readily explained that association of cochlear and vestibular dysfunction which is essential to a diagnosis of the condition. This assumption is today generally accepted, despite some cavilings, and has in the past two years received support from the report of pathologic changes in 3 cases,¹ which will be discussed later.

THE ALLERGIC GROUP

Allergic manifestations in the human body are the result of dilatation of capillaries and an increased permeability of their walls. And they are paroxysmal. Now cases of Ménière's syndrome due to a proved allergy—proved by the patient's response to treatment—have already been reported in the literature, and some of those cases in which patients have been reported cured by dietary regimens may well be examples of this group. Dohlman² recorded 4 cases, 2 due to a specific allergy (1 to milk and 1 to wheat) and 2 due to a "general" allergy, in all 4 of which the patient was relieved of his attacks as the result of treatment directed to the condition. Moreover, in experiments on guinea pigs he has shown³ that a highly constant symptom complex of characteristic vestibular type and one due to an anaphylactic reaction can be elicited by stimulation of the vestibular ganglion. He stated that the results cannot be applied directly to man, but "the fact that in guinea pigs these allergy-

produced symptom complexes originate in the vestibular ganglia does not in any way exclude the possibility that in man the labyrinth takes part in another manner. Variations in allergic sensitivity of organs exist in different species of animals."

Two of my patients afford direct confirmation of the view that allergy is the essential factor in some cases. An elimination diet demonstrated in the one a sensitivity to milk and eggs and in the other to milk and beef. The removal of these foods from the diet resulted in cessation of attacks; the addition of them subsequently was followed by a renewal of attacks. Both patients have been relieved over a period of many months by avoidance of these foods, without other treatment.

Histamine Skin Test.—Since the fact of an allergic disturbance may be regarded as established as a cause of Ménière's syndrome in some cases, it had to be determined how far it was a factor in all. But the discovery of a specific allergen, especially if it is a food-stuff, can be a tedious process, and specific cutaneous tests are admittedly unreliable. Therefore, since there is considerable evidence to show that the manifestations of allergy are possibly due to the release of histamine or of a histamine-like substance into the affected tissues, it was decided, after the suggestion of Dzsinič and Gallé,⁴ to use histamine intradermally as a general indicator and to see how far it was reliable. Thereafter a histamine intradermal test was performed on all patients with Ménière's disease and many others, 0.01 mg. being injected intradermally with a control of the same volume of physiologic solution of sodium chloride. By this means it was found that there was one group of patients with Ménière's disease who were histamine sensitive and another and larger group who were histamine insensitive. The criteria adopted for a positive reaction were a wide area of erythema $1\frac{1}{2}$ to 2 inches [3.8 to 5 cm.], a large wheal ($\frac{1}{2}$ to $\frac{3}{4}$ inch [1.3 to 1.9 cm.])⁵ and the presence of long trailing pseudopodia an inch or more in length which appear in three to five minutes, begin to fade only after twenty minutes and are still apparent at the end of thirty minutes. Small buds at the edge of the main wheal which fade in ten to twenty minutes are not assessed as positive. In a few doubtful cases, when something more than a bud and less than a true pseudopodium appeared, the intradermal test was repeated, 0.02 mg. being used. This always served satisfactorily to separate the sensitive from the insensitive, since those patients who were truly, even if weakly, sensitive showed a decided increase in reaction, while those truly insensitive did not.

Therapeutic Response.—The criteria laid down must be rigidly applied, or mistakes will occur, but when they are rigidly applied the histamine intradermal test has shown itself reliable. In my experience of some 200 tests made in a variety of conditions, no patient who was undoubtedly sensitive has failed to respond to histamine desensitization. Seven histamine-sensitive patients with Ménière's disease other than the 2 already mentioned (who, incidentally, were also histamine-sensitive) have been entirely relieved of their attacks over many months. On the other hand, doubtfully sensitive patients who in an early enthusiasm were read as sensitive and who it was later realized were insensitive, not only failed to respond but were in

From the Department of Surgery, the New York Hospital, and Cornell University Medical College.

Dr. Harold Wolff and Dr. Donal Sheehan gave helpful criticism; Dr. Arthur Palmer and others of my colleagues provided the means to carry out this investigation. Miss E. S. Clark, head nurse of the Ear, Nose and Throat Department helped in this work, and Abbott Laboratories, Hoffmann-La Roche, Inc., and Burroughs Wellcome and Co., Inc., provided liberal supplies of drugs.

1. Hallpike, C. S., and Cairns, H.: Observations on the Pathology of Ménière's Syndrome, *Proc. Roy. Soc. Med.* 31:1317 (Sept.) 1938. Hallpike, C. S., and Wright, A. J.: On the Histological Changes in the Temporal Bones of a Case of Ménière's Disease, *ibid.* 32:1647 (Oct.) 1939.

2. Dohlman, Gösta: Menieresche Krankheit auf allergischer Basis, *Acta oto-laryng.* 27:245, 1939.

3. Dohlman, Gösta: Studies of a Vestibular Syndrome Induced in Guinea Pigs by Allergic Reaction, *ibid.*, 1939, supp. 32.

4. Dzsinič, Anton, and Gallé, Tiberius: Zur Wirkungsmechanismus des Histamins, *Ztschr. f. klin. Med.* 135:669, 1939.

5. The size of wheal and the extent of erythema vary greatly with the coloring of the patient's skin, being least in the swarthy and greatest in the fair.

several instances made worse. Moreover, 5 of the 7 patients had a history of generally accepted allergic manifestations in the past, and in all 5 these manifestations have ceased since histamine treatment.

Histamine Attacks.—One patient with Ménière's disease who had a history of "sick headaches" and of food allergy received an intradermal test dose of 0.01 mg. and had a considerable cutaneous reaction. Thirty-five minutes later she had a mild attack, unfortunately not observed. This might have been coincidence, as she was having frequent attacks, but she had none during the next week or following a second injection of the same dose at the end of that time. After another week double the dose, 0.02 mg., was administered intradermally, and again an attack followed, this time after one hour, and again it was not observed. The patient vomited and felt nauseated all day; the same dose repeated caused no distress; the same sequence took place when the dose was doubled. With a slower increase of the dose, reactions diminished and disappeared, and the patient has now not had an attack for eight months as compared with a former three a week.

In 1 other case it was possible to produce an attack by too rapid an increase of the dose, while in 2 more cases slight and transient dizziness was produced, though no actual attack.

These attacks, or near attacks, have been so closely associated with the injections that it is difficult to avoid the conclusion of cause and effect.

It would appear, then, that there is a group of patients with Ménière's disease who are unduly sensitive to histamine, whose sensitivity can be demonstrated by their cutaneous reaction, in whom attacks can be produced by injection of the drug and who can be relieved of their attacks by histamine desensitization. It is therefore concluded that in this group the characteristic syndrome is produced by a reaction in the labyrinth caused by histamine or a histamine-like substance. This reaction is presumably the same as or similar to that produced in the skin—local vascular dilatation and increased capillary permeability.

THE VASOCONSTRICTOR GROUP

The allergic group, however, comprises only a minority of the patients, at least of the patients having classic attacks of Ménière's disease with whom this paper is concerned.⁶ When the histamine-sensitive patients have been subtracted from the total, there is left a majority, in my series 19, who present a negative response to histamine and whose attacks, it is postulated, are due to vasospasm.

The argument for the vasoconstrictor hypothesis runs thus: Among patients with Ménière's syndrome is a group of elderly patients, in their sixties or over, who may reasonably be expected to have degenerative vascular disease and who can be treated, like other patients with degenerative vascular disorders, with some success with vitamin B₁. Thiamine hydrochloride is cholinergic in its action, and at least some of its therapeutic value is due to its vasodilator effect.

If, then, the attacks in this older group may be assumed to be due to a vascular spasm initiated by a local degenerative fault, it is not unreasonable to assume that the attacks in the younger group, attacks which present an almost identical clinical picture, may

also be due to vascular spasm. In this instance, however, they may be produced not, or not necessarily, by a degenerative plaque but by some other local vascular fault the nature of which is at present unknown. Lewis⁷ postulated such a mechanism in recognized vasospastic conditions such as Raynaud's disease, and a similar mechanism may well hold in Ménière's disease. How else explain those occasional knockout attacks, which occur in young as well as in old people, in which the patient is thrown to the ground without warning by some irresistible force, if not by a sudden vascular occlusion temporarily obliterating the function of one labyrinth? Moreover, vascular spasm in varying degree will explain satisfactorily the varying severity of attacks, some mild and fleeting, some severe and prolonged.

With this argument in mind, some clinical experiments were undertaken designed to prove or disprove the foregoing assumption. The resulting observations are not as complete as could be desired and depend for their value as much on the subjective sensations of the patient as on the objective findings of an observer. Such deficiencies are almost inevitable in the investigation of Ménière's disease, in which patient and observer are seldom together or able to come together at the time of an attack except under the special circumstances of a large clinic with a great wealth of material. Nevertheless, in spite of their deficiencies, these observations seem significant.

1. Amyl nitrite pearls were given to 4 patients to be used in the event of an attack. Two patients stated that they stopped four attacks by this means. The results in 1 case were inconclusive because of the fleeting character of the two attacks in which it was tried. The fourth case was instructive. The patient was an intelligent, objective woman aged 28 whose attacks varied greatly in severity. She had used the drug in two severe attacks. On the first occasion she inhaled vigorously with the pearl held close to the nose, so taking a large dose. Dizziness was increased, and she promptly vomited, whereas before the inhalation she had felt merely nauseated. Encouraged to try again, she did so in another severe attack, but having been warned to take a smaller dose and frightened by her previous experience she held the pearl this time some distance from her nose and so took a small, possibly very small, dose. She experienced rapid relief; within five minutes of inhalation a severe attack which she would from previous experience have expected to last half an hour or more had completely subsided. She volunteered the remark that she thought "it all depended on how you smelt it," a cogent observation.

This experiment seems to be identical in its implications with that recorded recently by Wolff and his collaborators⁸ in a case of preheadache scotoma in migraine. They succeeded in abolishing the scotoma with small doses of amyl nitrite sufficient to produce vasodilatation but insufficient to cause a fall in blood pressure. When they used larger doses so that a considerable fall in blood pressure occurred and consequently peripheral blood supply instead of being improved was further impaired, the scotoma increased to a transient amaurosis. The same explanation applies to the case just described.

7. Lewis, Thomas: Experiments Relating to the Peripheral Mechanism Involved in Spasmodic Arrest of the Circulation in the Fingers, a Variety of Raynaud's Disease, *Heart* 15:7 (Aug.) 1929.

8. Wolff, H. G.; Cahan, A. M., and Schumacher, G. A.: Studies of Migraine: The Contrast of Vascular Mechanisms in Headache and Preheadache Phenomena, read before the Sixty-Sixth Annual Meeting of the American Neurological Association, Rye, N. Y., June 6-9, 1940.

6. A number of patients with paroxysmal vertigo without the cochlear manifestations—so-called pseudo-Ménière disease, unpleasant term—have proved to be histamine sensitive and have responded to appropriate treatment.

The association of paroxysmal vertigo with migraine was commented on by Ménière himself and has been noted by other observers since his time. Many patients in my series complained of both headaches and attacks of Ménière's disease, and in a certain number there was a definite relationship between the two, the headache following immediately on the dizziness. This was the fact in the case described. The conclusion appears inevitable that there is a proportion of cases in which an attack of Ménière's disease, like a scotoma, constitutes the primary and vasospastic part of a total vasomotor syndrome, of which migraine headache is the secondary and vasodilator part.⁹

2. Acetylcholine, 125 mg., was injected subcutaneously into 1 patient at the height of an attack. There was immediate and complete cessation of the vertigo, a fact vouched for by the physician-husband who gave the injection as well as by the patient. This is a crucial experiment which has not been repeated because unfortunately an opportunity has not been offered.^{9a}

3. By contrast, the patient whose experience with amyl nitrite pearls is described one day took 5 mg. of amphetamine sulfate by mouth, and thirty-five minutes later she was thrown to the ground without warning, suffering a severe attack. On four other occasions she has taken the same dose of 5 mg. and on a fifth 10 mg., but each time the dose was followed a few minutes later by an injection of nicotinic acid, a powerful vasodilator. On none of these has she experienced any ill effect.

4. Epinephrine (1 cc. of a 1:1,000 part solution) was injected subcutaneously in 5 patients in the hope of producing an attack. In all 5 there was a vestibular response within five minutes—nystagmus, pointing error and sway—against the deafer ear. That is to say, function of the vestibule on the affected side had been lowered. None of the patients had an attack, though 1 had a "stuffy" feeling in the ear. Two men took a further dose of 1 cc. ten minutes after the first. The vestibular signs were increased within five minutes, and one patient felt "a little dizzy" while the other felt "like before an attack."

A vasodilator (nicotinic acid) was thereupon administered intramuscularly, and in five minutes the labyrinth syndrome had disappeared, and there was a sensation of relief in the affected ear in the 2 patients who had complained.

A control experiment with epinephrine only was performed on another occasion on the only one of the 5 who was available. The labyrinth reaction again appeared and persisted for thirty-five minutes, with discomfort in the ear for several hours.

It may be objected that the action of epinephrine, however vasoconstrictor in its effect on the skin, is not necessarily so elsewhere, especially in the central nervous system, of which developmentally the inner ear forms a part. Nevertheless, the fact remains that signs which appeared following the administration of this substance disappeared rapidly after the exhibition of a vasodilator but remained for a considerable time when no vasodilator drug was administered.

5. Lack of opportunity has prevented the use of histamine during an acute attack in the way that Shelden and Horton¹⁰ described. They reported

dramatic successes in a series of 11 cases of acute involvement. It would appear from their report that they believe that the results obtained are dependent on a specific action of histamine. In the light of my observations it appears more probable that the results are due not to any specific action but simply to the vasodilator effect of the drug.

The foregoing observations, in conjunction with those of Shelden and Horton, would seem to lend considerable support to the theory that in the vasoconstrictor group the attack is caused by a temporary spasm of the vessels supplying the vestibular apparatus.

Therapeutic Response.—The final proof of a theory in such a case as this depends on the response to treatment. This, as will be seen later, is in general satisfactory. Briefly, of 19 patients treated with vasodilator drugs over a sufficient period to justify assessment of results 17 have been completely relieved or are steadily improving, while 2 who showed an initial improvement eventually had a relapse.

The Pathologic Evidence.—To complete the picture, this theory must be correlated with the histologic findings of Hallpike¹ in 3 cases which came to autopsy in each of which he found "a gross distention of the endolymphatic system together with degenerative changes in the sensory elements." The clinical information given is insufficient to place the cases mentioned for certain in their respective categories, but the first 2 are probably vasospastic, and the third suggests in many of its features an allergic basis for the disease. However, the inability to classify them correctly is unimportant, since the two groups may be expected to produce the same appearance post mortem.

The circulation of the endolymph represents a chapter in physiology which remains to be written. All that is known for certain is that the endolymph is absorbed in the sacculus endolymphaticus.¹¹ Experimental proof of its manner of production is lacking on account of technical difficulties which have still to be overcome. By analogy, however, with the aqueous humor in the eye and with the cerebrospinal fluid, both fluids produced in closed systems and so strictly comparable, it is not unreasonable to suppose that the endolymph is a dialysate produced by the stria vascularis, a capillary tuft situated in the cochlea close to the organ of Corti. If this is so, the quantity of endolymph will depend on variations in the blood flow in the capillaries forming the stria—the more dilated the capillaries the greater the quantity of endolymph, provided blood pressure does not fall, and vice versa.

The primary allergic or histamine mechanism of an attack is simple to explain. The allergic process is a familiar one—the production of local edema from dilatation of arterioles and increased permeability of the walls of the capillaries. An increased quantity of endolymph under such conditions corresponds to local cellular edema. As this excess is formed and pressure increases the whole cochlea will be damped down—hence the increasing deafness involving all tones, deafness which precedes the attack and is relieved by it. Hence also, by repeated insult, the eventual cochlear degeneration. This damping down will affect in the same way the vestibule, decrease its sensitivity and put it out of balance with its fellow on the other side, until eventually the discrepancy oversteps the possibilities of compensation and an attack of vertigo results.

9. Wolff, H. G., and Graham, J. R.: Mechanism of Migraine Headache and Action of Ergotamine Tartrate, *A. Research Nerv. & Ment. Dis., Proc.* (1937) 18: 638, 1938.

9a. Since this paper was written, the experiment has been repeated in 2 other cases with success.

10. Shelden, C. H., and Horton, B. T.: Treatment of Ménière's Disease with Histamine Administered Intravenously, *Proc. Staff Meet., Mayo Clin.* 15: 17 (Jan. 10) 1940.

11. Guild, S. R.: Circulation of the Endolymph, *Am. J. Anat.* 39: 57 (March) 1927.

Labyrinthine vertigo is only an expression of imbalance between the two sides.

In the primary vasoconstrictor group, though the mechanism of an attack is different the ultimate results in the labyrinth are much the same, and it is this similarity which causes the difficulty in distinguishing the two groups, both clinically and pathologically. Clinically the same syndrome of labyrinth imbalance may be expected whether the decreased sensitivity is caused by the damping effect of an excess of endolymph or by a temporarily insufficient blood supply from vascular spasm. Pathologically also the same appearance may be expected in the dead subject in the two groups—dilatation of the endolymphatic space. In the one case the excess of endolymph will be due to a primary dilatation of the capillaries of the stria; in the other it will be due to a secondary dilatation following the primary constriction, analogous to the secondary dilatation which follows the primary spasm in Raynaud's disease. Similarly the cochlear degeneration, which could be the result of recurrent anoxemia or of recurrent excesses of endolymph, is perhaps something of both. If this concept is correct, it provides also an explanation for the aftermath of unsteadiness and the increase of deafness which follow the attack in the vasoconstrictor group. In the two groups, therefore, the postmortem picture will be the same, though in the second it is a picture not of the actual pathologic process but only of its result.

COMMENT

The theory of a vasomotor basis for the phenomenon of attacks of Ménière's disease is not new. Such a basis was suggested originally by Portmann¹² and again later by Mygind and Dederding,¹³ whose work on water metabolism, supported by a mass of collateral clinical evidence, is the most complete exposition of the syndrome to date. These authors did not, however, envisage the dual mechanism which, if accepted, clears away many or all of the previous difficulties.

But to say merely that the clinical manifestations known as Ménière's syndrome can be produced by the mechanism of allergy on the one hand and of vasospasm on the other is to reduce the condition to one of apparent simplicity which in fact it is far from being. Both processes are incompletely understood. Leaving aside allergy, about which a good deal is known, the phenomenon of vasospasm presents problems of causation which have scarcely begun to be understood. It is well enough to say that attacks of Ménière's disease have been shown to be produced by vasospasm in many cases, but it still remains to be shown why that vasospasm occurs. That the sympathetic nervous system plays a part is certain, and there is much clinical evidence to show that, in the condition under discussion, that part is an important one. How important it is, and what its relation is to the factors of water metabolism and electrolyte balance which have engaged the attention of other workers¹⁴ is not yet clear. It may even be that focal infection, so ardently stressed of late by Wright,¹⁵ is in some cases a contributory

factor in the vasospasm, though I confess that I view the hypothesis in this as in other fields with great mistrust. That "post hoc" is "ergo propter" is more difficult to demonstrate in this, perhaps, than in any other field of therapy.

DIFFERENTIAL DIAGNOSIS

It is a truism to say that the efficient treatment of a disease depends on an understanding of the underlying pathologic process. Without that knowledge treatment, though it may be successful, must be empiric. The treatment of Ménière's syndrome in the past has been an outstanding example of such enforced empiricism. The evidence just put forward, however, points the way, it is believed, to a more rational therapy on the basis that the phenomena of Ménière's syndrome can be produced by the two distinct factors of allergy and vascular spasm. Each case must therefore be placed in its correct category before a logical line of therapy can be adopted.

THE CLINICAL CHARACTERISTICS OF THE TWO GROUPS

Members of the allergic group, as has been shown in the previous section, give a positive cutaneous reaction with histamine. More than that, they have, as I have shown elsewhere,¹⁶ a diminished sensitivity of the labyrinth on the affected side when sensitivity is changed and an audiogram characteristic of a hearing loss of conductive type and usually of minor degree. Members of the vasospastic group, on the other hand, give a negative cutaneous reaction to histamine. They have consistently increased vestibular sensitivity except in a few cases of long standing, when it is diminished, and the audiograms show a hearing loss of perceptive or mixed type and often of severe degree even in young patients. In addition to these mechanical aids to differentiation there are certain points of difference in the histories of the two groups which will often enable the careful inquirer to separate his cases.

1. The allergic group is a young group, the average age in my series (9 cases) being 30 years at the time of onset of the disease. Women predominate (8 to 1 in my series). The hearing loss, as has been said, is not great, nor is the tinnitus severe. The attack is commonly preceded by a warning. This is scarcely a definite aura, but patients often know some hours beforehand that an attack impends. Hearing gets worse, tinnitus increases, they suffer a severe headache which from being at first local and unilateral on the deafer side becomes general until suddenly there is a sensation of "something bursting" or "something happening" in the head and the attack is on. The acuteness of it passes in half an hour or so, the attack often being terminated by vomiting, and there is little or no aftermath of unsteadiness. After the attack, headache and hearing improve rapidly and tinnitus diminishes again to its former level. This is the syndrome described by Lermoyez as "the vertigo which makes one hear."

Here is a description in the words of a woman aged 30: "For twenty-four hours before, I feel irritable and cross and am very unpleasant to people. About half an hour before the attack starts I feel very tired and old. Then a few minutes before the attack there comes a sensation of something cold at the back of my head which spreads forwards over the top. At the same time I have a bursting feeling in my ears, my hearing

12. Portmann, G.: The Saccus Endolymphaticus and an Operation for Draining the Same for Relief of Vertigo, *J. Laryng. & Otol.* 42: 809 (Dec.) 1927.

13. Mygind, S. H., and Dederding, Dida: Les syndromes méniériques, Paris, Presses Universitaires de France, 1934.

14. Fürstenberg, A. C.; Lashmet, F. H., and Lathrop, Frank: Ménière's Symptom Complex: Medical Treatment, *Ann. Otol., Rhin. & Laryng.* 43: 1035 (Dec.) 1934. Talbott, J. H., and Brown, M. R.: Ménière's Syndrome: Acid-Base Constituents of the Blood; Treatment with Potassium Chloride, *J. A. M. A.* 114: 125 (Jan. 13) 1940.

15. Wright, A. J.: Further Clinical Observations on the Nature and Treatment of Ménière's Disease, *Proc. Roy. Soc. Med.* 33: 459 (June) 1940.

16. Atkinson, Miles: Changes in Vestibular Sensitivity in Ménière's Syndrome and Their Significance, *Arch. Otolaryng.*, to be published.

becomes much worse and the noises very loud. Suddenly something seems to burst in my head and everything is spinning round. When it is over I feel very exhausted and must sleep for two or three hours. Then I am quite well again and my hearing and noises return to the same as before."

2. The vasospastic group, in general, is an older group, the average age in my series of 19 patients being 42. But this group divides itself clinically, in its response to treatment, and possibly also etiologically, so far as the vasospasm is concerned, into three classes.

(a) First there is a small number of young patients, usually in the twenties at onset (1 in my series was only 15). These have severe and rapidly progressive symptoms as regards attacks, deafness and tinnitus, and they are often resistant to treatment. They are more often women than men (4 out of 6) and in this and other ways bear a resemblance to patients with Raynaud's disease. For instance, 3 of my patients are susceptible to low temperatures, and their attacks are more frequent in cold weather. Emotional disturbances sometimes cause an attack, as when in one instance a woman's child unexpectedly emitted an ear-piercing scream immediately behind her. And the lesion, or rather the deafness, is usually bilateral, though more severe on one side.

(b) Then there is a large class of the middle-aged, from 35 to 50 or so, who are amenable to medical treatment. Their attacks tend to come in batches—they may have two or three during a week or a month and then a long interval, even a year or more, of freedom, but the general course is toward deterioration, as regards the severity both of attacks and of deafness. These patients seem to belong in a classification with that large group of the middle-aged who suffer vascular disorders. Three of my patients had experienced attacks which were called coronary attacks, though without characteristic electrocardiographic changes, and the attacks of vertigo in this class frequently occur, like coronary attacks, while the patient is at rest or asleep. Some patients have been labeled as having hyperpiesis or essential hypertension; yet their blood pressure, though varying perhaps considerably from examination to examination, is seldom more than moderately raised—140 systolic or thereabouts. Several have been better when leading active rather than sedentary lives. The complaint of cramps in the limbs is not uncommon, and the illness of 2 of my patients has been diagnosed as thromboangiitis obliterans. Previous abdominal operations are common, especially on the gallbladder, yet the results are disappointing—the relation of the spastic appendix and gallbladder to Ménière's disease still apparently is not generally appreciated.

(c) Finally there is the class of the elderly, aged 60 and upward, with characteristic progressive senile deafness and mild tinnitus who often say that their attacks are gradually decreasing in severity and frequency, whence comes the statement, often heard though without foundation as far as my own experience goes, that when hearing is totally lost the attacks cease. This class also is usually amenable to medical treatment.

Contrasting the vasospastic group as a whole with the allergic one, it may be said that the deafness experienced by it is more severe and the tinnitus more troublesome. Vertigo, however, takes three forms, often, and especially in the first two varieties, in the same patient. There are momentary attacks, lasting a matter of seconds, sometimes very frequent and perhaps leading up

to a major attack; major and prostrating attacks, and rare "knockout" attacks in which the patient is cast incontinently to the ground. Each of these depends presumably on a varying degree and duration of vasospasm. There is no aura; the attack comes as a "bolt from the blue." And when the attack is over hearing is found to be lessened, tinnitus is worse and there is often an aftermath of unsteadiness which persists for a varying time, sometimes as long as three or four days. In short, whereas the attack in the allergic group makes things better, in the vasospastic group it definitely makes them worse.

The cause of the spasm is probably different in the three classes. The cause of the spasm in Raynaud's disease is almost certainly not the same as that in coronary spasm or in thromboangiitis obliterans, though in none of them is the actual basic cause yet known. Sympathetic nervous control undoubtedly plays a part, though not necessarily the whole part, in these conditions, and perhaps to a different extent in the young and in the middle-aged. In Ménière's syndrome, water metabolism and electrolyte balance¹⁷ are known to have their share of influence, and perhaps they have in others. And, if the analogy is just, so may the sympathetic nervous system have influence in Ménière's disease.

The disease of the third, elderly, group presumably owes its origin to a sclerotic plaque, a senile degenerative process, as the local fault which initiates the spasm. It is generally believed that a high blood pressure is an important contributory cause in the disease of these elderly patients. This is not the case. Indeed, some of them have an unduly low pressure and are helped by measures designed to raise it. The dizziness of the person with true hyperpiesis, the sufferer from generalized arteriosclerosis, is a mild but fairly constant dizziness increased by sudden changes of position, in contrast with the severe and incapacitating paroxysms of Ménière's disease.

TREATMENT

THE ALLERGIC GROUP

The ideal treatment is to discover and remove, or desensitize against, the specific allergen. In 2 cases in my series the discovery was made (in the one case the antigen was milk and eggs and in the other milk and veal), and both patients have been relieved of attacks over ten to twelve months respectively. I say "relieved" deliberately, because to speak of cure of Ménière's disease in any time under a term of years is, I believe, presumptuous, knowing, as everybody does, the long intervals of remission that may occur. The remainder (7 patients) have been treated by histamine desensitization according to the method suggested by Dzsinić and Gallé.⁴ The principle of this treatment is that, assuming that allergic symptoms are the result of hypersensitivity to histamine, desensitization of the subject to this substance will relieve him of further attacks. Starting with the same dose subcutaneously as in the intradermal test (0.01 mg.), patients are worked up in slowly increasing doses twice or at most three times weekly to the limit of tolerance, which has been as a maximum 1 mg. and sometimes less. They are then maintained at top dose once a week for a month. A second short course after a three months interval is advisable.

The results have been most satisfactory, so satisfactory, indeed, that I have come to regard the placing of a patient in the allergic group as being as much a

17. Mygind and Dederding.¹³ Furstenburg, Lashmet and Lathrop.¹⁴ Talbot and Brown.¹⁵

prognosis as a diagnosis. Treatment in all of the 7 cases has been successful as regards relief of vertigo. Attacks, sometimes very frequent attacks, have ceased in all cases. Moreover, on three occasions an attack produced by overdosage has been immediately stopped by the exhibition of epinephrine—strong proof of the allergic mechanism. Unfortunately the opportunity has never arisen of determining the action of epinephrine in the course of a spontaneous attack in a member of this group. It should act just as dramatically.^{17a}

The paroxysms of vertigo are not the only symptoms that are relieved. Headaches from which most patients (7 out of 9) suffer disappear completely or become infrequent and mild. One woman who used to have sneezing attacks, especially when cleaning her house, now sneezes scarcely at all. As striking as anything is the improvement in general condition. Patients feel better; their color improves; they put on weight (sometimes to their considerable distress in these "slim" days) and their mental outlook changes. Dzsinič and Gallé⁴ also commented on this feature, although they found little if any change in such laboratory findings as eosinophilia and lymphocytosis, the complement titer or cholesteremia. No confirmation of these laboratory observations has been attempted.

Deafness and tinnitus have not been so uniformly helped. Improvement in these symptoms depends largely on the length of time that they have been in existence. Thus of 3 patients who had no improvement in either symptom, 2 had complained for twenty years; the third had suffered many and severe attacks at intervals for three years. On the other hand, 3 patients whose symptoms had been in existence under a year had decided improvement in both, and one had complete cessation of tinnitus. In fact, the longer the duration of the insult, the more irreparable the damage.

THE VASOCONSTRICTOR GROUP

Various dilator drugs of the nitric group were tried in the search for a satisfactory vasodilator. Glyceryl trinitrate was the most effective of these, particularly in older patients, but it must be given in large doses, $\frac{1}{50}$ grain (0.0012 Gm.) three times a day or more. It is a drug of which I am unduly afraid. But even in adequate doses it is not an invariable success, even if used, as it must be, over long periods. Prostigmine methylsulfate, another vasodilator, was tried in 5 cases, partly because of its reported success in the treatment of chronic deafness. It achieved spectacular success in 1 patient, a man aged 48, but was entirely unsuccessful in the other 4. Even in the successful case, a mild one, there were other factors which might have influenced the result. Finally vitamin B, first the whole complex, later individual constituents, was tried and proved more satisfactory than any other substance, in particular the nicotinic acid fraction, which is a powerful dilator, at least of peripheral vessels. After a good deal of therapeutic trial and error it became possible to formulate certain general principles and to establish a routine.

The Nicotinic Acid-Thiamine Hydrochloride Treatment: Some General Principles.—1. Some patients react perfectly well to oral administration, but many do not, and the improvement in results when parenteral administration is substituted may be striking. I cannot agree with those observers who say that oral administration is as effective as parenteral, averse though I am to the needle as a routine.

2. Therefore it is advisable always to begin with parenteral administration unless the patient objects too strongly, in which case he may often be converted later.

3. In the young and middle-aged, nicotinic acid is the active substance responsible for results. It is only necessary to dilute it with thiamine hydrochloride and observe the deterioration in results to establish this. The importance of nicotinic acid in the vitamin B treatment of certain forms of deafness has been pointed out by Selfridge,¹⁸ and it applies equally to Ménière's syndrome.

4. In the elderly, on the other hand, the sedate action of thiamine hydrochloride is the more important. Old people do not tolerate well drastic dilatation.

5. In all cases patience and perseverance are incumbent on both patient and physician.

6. A high protein-high vitamin diet is important, as well as an active life suitable to the patient's age, and since Ménière's disease is a vasospastic condition smoking should be forbidden.

ROUTINE

1. *Nicotinic Acid.*—This, as has been said, is the important fraction of the vitamin B complex for the young and middle-aged patients, but it must be insisted that there is no rule of thumb for its administration. Dosage is essentially individual. Whereas one will accept with equanimity 100 mg. parenterally every day,

Three Mixtures of Nicotinic Acid and Thiamine Hydrochloride, Milligrams per Cubic Centimeter

	Mixture 1	Mixture 2	Mixture 3
Nicotinic acid	45	40	25
Thiamine hydrochloride....	5	10	25

another will tolerate only 20 mg.¹⁹ The principle is to push each patient to the limit of his tolerance, maintain him there as long as necessary (always a matter of months) and then gradually diminish the dose to a maintenance dose, which may be oral. The indications for reduction of the dose are excessive "flush" reaction, headache, nausea and lassitude from a fall in blood pressure.

In general, it may be said that the middle-aged class requires and tolerates the largest dose, 50 mg. and more parenterally daily; the young class has to be approached cautiously with 25 mg. daily, which can often be considerably increased if caution is observed, while the old group is usually intolerant of anything but small doses, 10 to 20 mg. It would seem as if the sensitive vasomotor mechanism of the young and the inelastic vessels of the old are intolerant of nicotinic acid in high dosage, while the middle-aged vasomotor system, of declining resilience, reacts well to an enforced increase of activity.

2. *Thiamine Hydrochloride.*—This vitamin is used in almost reverse fashion. The dose that is necessary becomes larger with the age of the patient, until in the old it should be used in plentiful amounts of 10 to 25 mg. daily, perhaps even to the exclusion of nicotinic acid. The enormous doses fashionable today are unnecessary and wasteful. After a time varying with each patient a change may be made to oral medication, but

18. Selfridge, Grant: Nicotinic Acid and the Eighth Nerve: A Preliminary Report, *Ann. Otol., Rhin. & Laryng.* 48:39 (March) 1939.

19. This idiosyncrasy has been found also in the treatment of pellagra with nicotinic acid. Cf. Spies, T. D.; Grant, J. M.; Stone, R. E., and McLester, J. B.: Recent Observations on the Treatment of Six Hundred Pellagrins with Special Emphasis on the Use of Nicotinic Acid in Prophylaxis, *South. M. J.* 31:1231 (Dec.) 1938.

17a. Since this paper was written an attack in a histamine-sensitive patient has been stopped by ergotamine tartrate.

for a year at least, and possibly for the rest of his life, the patient should continue with a maintenance dose of 3 mg. daily.

It has become routine to start with a mixture of two substances, varying the quantities according to the patient's need, but the three mixtures given in the accompanying table have a wide sphere of usefulness.

It would seem wise, under the present limitation of knowledge, to repeat from time to time short courses of injections lest relapse take place, but how often or over what period of time these should be continued has not at present been established. Probably here also there is no rule of thumb. It is even possible, if Ménière's disease is a condition of true deficiency, that substitution therapy will have to continue always.

Results: These, as has been said before, must be estimated cautiously, in view of the patient's tendency to relapse. Even viewed conservatively, however, the results I have obtained seem satisfactory. They are more convincing to witness than they may appear on paper, and with increasing experience they grow better. Of 19 patients in the vasoconstrictor group who have been under treatment sufficiently long (six months or more), 8 have been entirely relieved of attacks for such time, compared with their intervals before treatment, as to make one hopeful of a permanent result. Of the remaining 11, 9 have been improved. In all these, attacks have been greatly lessened in frequency and severity and are continuing to diminish; in some, attacks have ceased, but too recently (within less than six months) for it to be justifiable to class them as relieved. The remaining 2 both had a relapse after an initial improvement. One, a man aged 66, had a nerve section with satisfactory result; the other, a man aged 36, has been lost sight of.

If steady improvement merits the designation satisfactory, despite in some cases occasional attacks which are diminishing in frequency and severity, it can be said that 17 out of 19 patients have reacted satisfactorily to the treatment described. There have been two failures. Other patients who have been under treatment too short a time to be included here bear out my observations as to both diagnosis and treatment. Good results with treatment on similar lines have been reported recently by Harris and Moore, though they have not classified their cases.²⁰

The Action of Nicotinic Acid.—I am competent to discuss the action of nicotinic acid only so far as the results of my own clinical observations go.

There is no doubt about the vasodilator action of nicotinic acid or the fact that its action is on the smallest vessels or the capillaries. Flushing of the face is observed in a majority of patients within three minutes of an intramuscular injection and is often much more extensive, involving the neck, upper part of the trunk (back and front), the upper arms, sometimes even the hands, knees and feet. Even those who show no obvious flush have a sensation of warmth. It was said by Elvehjem²¹ that this flush reaction is due to the acidity and that if the p_H is adjusted it does not occur. I have been using an organic salt²² whose p_H is on the alkaline side between 8 and 9, and still the flush occurs.

Some patients flush severely, some mildly, some occasionally; some who flush at first gradually lose the reac-

tion. The explanation may be that flushing denotes a deficiency, but I have not been able to satisfy myself of any difference in the therapeutic efficiency of nicotinic acid on those who flush and on those who do not. It is not known, in fact, whether there is any specificity, apart from its use in the treatment of pellagra, in the action of nicotinic acid—whether, for instance, it is an essential factor in a normally functioning autonomic nervous system and so supplies a deficiency, as seems possible, or whether it works purely by virtue of its vasodilator action. Nor is it known as yet at what precise point in the vasomotor mechanism nicotinic acid has its action. These are matters under investigation.

Histamine and Nicotinic Acid.—A warning must be given against indiscriminate use of these substances. Histamine, or a closely allied substance, is believed to be the specific agent in producing the manifestations of allergy, and its use in histamine-sensitive patients in small desensitizing doses is therefore rational. But because of its vasodilator action histamine in larger doses is effective also in vasoconstrictor conditions, as in acute paroxysms of Ménière's disease of vasospastic type¹⁰ or certain forms of vasospastic headache,²³ and even at first in small doses it may produce improvement and hence encouragement. If persisted in with the wrong patient and in desensitizing doses, it can do much harm. I speak from the experience of having done precisely this and produced an instability in the patient's condition which it has taken a long time to overcome.

In the same way, nicotinic acid or any dilator drug given to one of the histamine-sensitive group causes increased attacks and general deterioration. This also I have done.

Only if histamine and nicotinic acid are employed with a full appreciation of their mode of action and a knowledge of the type of case in which they are to be used can satisfactory results be expected. Unless these conditions are fulfilled there will arise distress for the patient and disappointment for the physician.

Other Methods of Treatment.—In the vasoconstrictor group treatment has been confined in my series purposely to one method. This group has been treated by the means described and by that means alone in an attempt to prove or disprove the vasospastic theory. No limitation of fluids or alteration of sodium-potassium intake was attempted, methods which, alone, have proved disappointing in my hands. Nevertheless there is sufficient evidence to suggest that such disturbances play a part in the causation of Ménière's disease, perhaps to a different extent in the different classes, and that a complete system of therapy must take them into consideration. Their influence will need further investigation.

Eustachian stricture, too, is a frequent finding and should be looked for carefully. When present, it should be treated energetically on the same principles as a urethral stricture. Despite the skeptics, this treatment alone suffices for cure in a number of cases, presumably by restoring normal pressure conditions in the middle ear, and perhaps to some extent by virtue of its massage effect.

The infective theory I view, as I have said, with great skepticism. It may well be that a generalized low grade infection may cause an increased sensitivity of the vasomotor mechanism and so tip the balance to

20. Harris, H. E., and Moore, P. M., Jr.: The Use of Nicotinic Acid and Thiamin Chloride in the Treatment of Ménière's Syndrome, *M. Clin. North America* 24: 533 (March) 1940.

21. Elvehjem, C. A.: The Biological Significance of Nicotinic Acid (Harvey Lecture), *Bull. New York Acad. Med.* 16: 173 (March) 1940.

22. Nicamine, supplied by Abbott Laboratories.

23. Horton, B. T.; MacLean, A. R., and Craig, W. McK.: A New Syndrome of Vascular Headache: Results of Treatment with Histamine: Preliminary Report, *Proc. Staff Meet., Mayo Clin.* 14: 256 (April 26) 1939.

vasospasm. Certainly a gross infection should be eradicated on general principles. But to add Ménière's syndrome to the list, already far too long, of conditions which can be relieved by the surgical removal of some more or less hypothetic focus of infection is in my opinion quite unjustifiable.

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CHANGES IN SERUM PROTEIN AND HEMOCONCENTRATION IN MAN

FOLLOWING TRANSFUSION OF A SOLUTION
OF DRIED BLOOD PLASMA

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Many authors have shown recently that blood plasma approaches the ideal perfusion medium to be used in combating hemoconcentration and restoring an effective blood volume in the treatment of peripheral circulatory failure occurring in traumatic shock, in severe burns and after hemorrhage.¹ The importance of proper methods for preserving plasma until needed for transfusion is obvious. The preservation of plasma by refrigeration or the addition of chemical preservatives has been attended with gratifying results.² However, there are certain advantages to be obtained by removing the water and storing the plasma as a dry residue. The dangers of contamination or loss during storage and transit are considerably less under such circumstances. There is evidence that the dried residue represents the most stable form.³ Furthermore, it is possible to prepare concentrated hypertonic plasma or more dilute solutions as the need may be.

Recently a simple method for the preparation of dried plasma and the result of its experimental use were reported from this laboratory.⁴ Accordingly, at this time the results of the clinical use will be presented.

METHODS

The plasma used in this study was obtained from freshly drawn group IV (O) blood and was dried to a flaky residue by the method previously described.⁴ This consists, briefly, in continuous simple distillation of fluid plasma while it is sprayed into a distilling flask maintained at a reduced pressure of approximately 15 mm. of mercury and at 45 C. It is possible to obtain

very rapid dehydration of the plasma at a minimal cost for equipment or operating expense.

Before removal of the plasma residue from the drying flask and after completion of the drying process about 20 Gm. of dry sterile dextrose is added to the residue of 1 liter of plasma. When the flask is shaken nearly all the plasma residue falls from the sides and becomes well mixed with the dextrose. The dry dextrose added after drying the plasma serves as a dispersion medium and greatly increases the rate of solubility of the product. Plasma solution sufficient for a transfusion can be prepared in a few minutes after the addition of sterile water.

Dried plasma prepared by this method has a residual water content of 3 to 8 per cent.⁵ Further drying occurs during storage at room temperature in open containers protected from contamination by a covering of several layers of gauze. After ten weeks' storage in this manner there has not been deterioration, as evidenced by changes in physical or chemical properties or by untoward effects following clinical use. Representative composition of the dried plasma is presented in table 1.

An arbitrary dose of plasma-dextrose mixture consisting of approximately 40 Gm. of plasma residue and

TABLE 1.—Analysis of a Typical Sample of Human
Dried Plasma

Water content.....	8.2%
Ash.....	10.7%
Total protein.....	70.4%
Albumin.....	44.9%
Globulin.....	25.5%
A : G ratio.....	1.8:1
Total lipoids.....	7.8%
Cholesterol (cholesterol esters 1.4%).....	2.6%
Fatty acids.....	5.2%
Lecithin.....	2.6%
Sugar.....	1.1%
Nonprotein nitrogen.....	0.2%

8 Gm. of dextrose is dissolved in 400 cc. of sterile distilled water for each transfusion. This solution is the equivalent of about 450 cc. of fresh plasma in protein content. The addition of 600 mg. of sodium sulfathiazole serves as a satisfactory preservative. Solutions of plasma used as long as twelve days after preparation are not attended by untoward effects. Samples of plasma known to be contaminated with a variety of organisms have been sterile on subsequent culture a few days after the addition of sodium sulfathiazole in the amounts indicated.

Studies directed at determining the effectiveness of a solution of dried plasma in increasing the plasma volume and protein concentration were performed on a series of fourteen patients who received a total of nineteen transfusions of the plasma solution. The indications for transfusion of plasma varied from postoperative vascular collapse to hypoproteinemia dependent on a number of causes. The hematocrit,⁶ the total serum protein and the albumin-globulin ratio⁷ were taken as criteria of the concentration of the cellular elements of the blood stream and of the plasma proteins

From the Division of Biochemistry (Dr. Osterberg), the Division of Surgery (Dr. Priestley) and the Section on Anesthesia (Dr. Seldon), the Mayo Clinic.

1. Strumia, M. M.; Wagner, J. A., and Monaghan, J. F.: The Use of Citrated Plasma in the Treatment of Secondary Shock, *J. A. M. A.* **114**: 1337-1341 (April 6) 1940. Black, D. A. K.: Treatment of Burn Shock with Plasma and Serum, *Brit. M. J.* **2**: 693-697 (Nov. 23) 1940. Buttle, G. A. H.; Kekwick, A., and Schweitzer, A.: Blood Substitutes in Treatment of Acute Hemorrhage, *Lancet* **2**: 507-510 (Oct. 26) 1940.

2. Elliott, John; Busby, G. F., and Tatum, W. L.: Some Factors and Observations on Preparation and Preservation of Dilute Plasma, *J. A. M. A.* **115**: 1006-1008 (Sept. 21) 1940.

3. Flodorf, E. W., and Mudd, Stuart: Procedure and Apparatus for Preservation in "Lyophilic" Form of Serum and Other Biological Substances, *J. Immunol.* **29**: 389-425 (Nov.) 1935. Hill, J. M., and Pfeiffer, D. C.: A New and Economical Desiccating Process Particularly Suitable for the Preparation of Concentrated Plasma or Serum for Intravenous Use: The Adtevac Process, *Ann. Int. Med.* **14**: 201-214 (Aug.) 1940.

4. Harper, S. B.; Essex, H. E., and Osterberg, A. E.: The Preparation and Experimental Use of Dried Blood Plasma, *Proc. Staff Meet., Mayo Clin.* **15**: 689-694 (Oct. 30) 1940.

5. Moisture content determined as percentage weight loss after drying to a constant weight at 100 C.

6. Todd, J. C., and Sanford, A. H.: Clinical Diagnosis by Laboratory Methods: A Working Manual of Clinical Pathology, ed. 9, Philadelphia, W. B. Saunders Company, 1939.

7. Kingsley, G. R.: A Rapid Method for the Separation of Serum Albumin and Globulin, *J. Biol. Chem.* **133**: 731-735 (May) 1940.

respectively. Blood samples for these determinations were drawn immediately before and ten minutes after the transfusion and again during the first few days following transfusion. In addition, frequent determinations of the blood pressure, pulse and respiration were performed. In a few cases urinary excretion of nitrogen and protein was studied.

RESULTS

The results of the blood studies are presented in table 2. The hematocrit level following transfusion is lower than the initial level in all cases, indicating dilution of the cellular elements of the blood and an increase in the volume of plasma. A comparison of the protein levels before and immediately after transfusion shows that a corresponding diminution of the

the changes in plasma volume which depended on the transfusion of plasma, since an accurate record of fluid intake by other means was not obtained. However, in those cases in which the patient did not receive other intravenous fluids following the transfusion the hematocrit remained below the level before transfusion for a period up to four days. At the same time the serum protein level showed a gradual, but slight, rise after transfusion.

It will be seen from the wide variation of degree and duration of the changes observed that the results are not to be explained by simple addition and dilution as in vitro. This is in accord with the findings of a number of authors who have studied the effects of serum and plasma transfusions.⁸ There are a number of determining factors. As has been pointed out, a

TABLE 2.—Changes in Hematocrit Readings and Serum Protein Following Transfusions of Dried Plasma Solution in Twelve Cases

Case	Before Transfusion					After Transfusion					Subsequently					Comment	
	Gm. in 100 Cc.				Hematocrit, per Cent	Gm. in 100 Cc.				Days*	Gm. in 100 Cc.						
	Hematocrit, per Cent	Total Protein	Albumin	Globulin		A : G Ratio	Total Protein	Albumin	Globulin		A : G Ratio	Hematocrit, per Cent	Total Protein	Albumin	Globulin		A : G Ratio
1	..	7.2	4.1	3.1	1.3:1	..	7.6	4.6	3.0	1.5:1	2	..	7.8	4.7	3.1	1.5:1	Metastatic brain tumor; temperature 102 F. following transfusion
2	..	5.6	...	...	.....	..	5.8	...	...	.....	..	..	...	...	...	.....	Advanced carcinoma of stomach; no reaction
3	39	4.5	2.7	1.8	1.5:1	36	4.3	2.8	1.5	1.9:1	1	36	4.7	2.8	1.9	1.5:1	Advanced carcinoma of liver; no reaction
		4.8	2.9	1.9	1.5:1	..	4.8	2.9	1.9	1.5:1	2	..	5.0	2.8	2.2	1.3:1	Case 3, second transfusion five days later; no reaction
4	..	4.5	3.5	1.0	3.5:1	..	4.5	3.5	1.0	3.5:1	1	..	4.6	3.5	1.1	3.2:1	Empyema and bronchopneumonia; no reaction
5	33	7.3	3.8	3.5	1.1:1	29	7.4	4.0	3.4	1.2:1	½	25	6.4	3.7	2.7	1.4:1	Postoperative shock; no untoward reaction
6	59	7.4	4.8	2.6	1.8:1	53	7.3	5.0	2.3	2.2:1	1	50	7.1	5.0	2.1	2.4:1	Gastroenterostomy; no reaction
7	46	6.5	4.2	2.3	1.8:1	41	6.3	3.9	2.4	1.6:1	1	40	6.3	4.2	2.1	2.0:1	Gastric resection; no reaction
8	36	6.4	4.0	2.4	1.7:1	30	6.0	3.8	2.2	1.7:1	1	34	6.8	4.4	2.4	1.8:1	Gastroenterostomy; no reaction
9	28	3.4	1.5	1.9	1:1.3	24	3.6	1.7	1.9	1:1.1	2	30	3.8	1.8	2.0	1:1.1	Chronic ulcerative colitis; no reaction
	26	3.5	1.4	2.1	1:1.5	23	3.5	1.6	1.9	1:1.2	..	..	...	...	...	.....	Case 9, second transfusion five days later
10	42	5.6	3.1	2.5	1.2:1	39	5.8	3.5	2.3	1.5:1	4	33	5.2	3.2	2.0	1.6:1	Carcinoma of head of pancreas; no reaction
	32	3.6	2.3	1.3	1.8:1	31	4.6	3.0	1.6	1.9:1	1	36	4.4	2.7	1.7	1.6:1	Case 10, one week later
	36	4.4	2.7	1.7	1.6:1	33	4.6	2.5	2.1	1.2:1	..	..	...	...	...	.....	Case 10, one day later
11	36	6.6	3.9	2.7	1.4:1	33	6.8	4.0	2.8	1.4:1	4	32	7.0	4.2	2.8	1.5:1	Total hysterectomy
12	44	5.0	3.0	2.0	1.5:1	38	4.9	3.0	1.9	1.6:1	1	42	5.2	2.7	2.5	1.1:1	Acute yellow atrophy; no reaction
	32	4.4	2.5	1.9	1.3:1	30	4.6	2.9	1.7	1.7:1	1	35	4.6	2.8	1.8	1.6:1	Case 12, pulmonary edema

* After transfusion when last sample was obtained.

serum protein concentration does not occur. It would appear that the increase in plasma volume as interpreted from the lowering of the hematocrit depends on the addition of protein as well as fluid to the circulating plasma. Since in the plasma solution injected the concentration of protein was always slightly higher than in the plasma of the recipient, a rise in the serum protein level after transfusion can be understood. In those instances in which the concentration of serum protein is lowered following transfusion, the percentage drop is never as great as the percentage drop in the hematocrit. Thus there is actually a rise in the relative amount of protein and undoubtedly in the absolute amount of total circulating plasma protein.

Hematocrit and serum protein determinations taken from twelve hours to several days after plasma transfusion indicate that the initial changes are maintained for some time. From the values observed in this study it is not possible to determine the exact duration of

portion of the injected protein is lost from the blood stream and simultaneously water is drawn into the circulation from the tissues. The loss of protein as determined in this study may be more apparent than real. The increase in plasma volume following the injection of plasma may be partially compensated for by the addition of more cellular elements to the active circulation from regions in the body where circulation is slow. Thus McAllister⁹ found that plasma loss as

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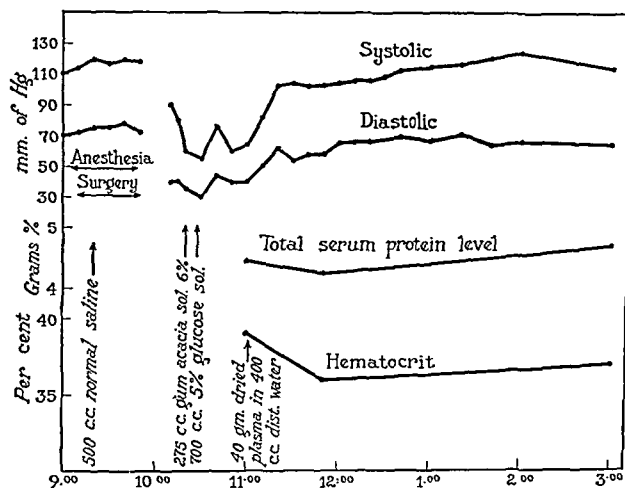
9. McAllister, F. F.: The Effect of Ether Anesthesia on the Volume of Plasma and Extracellular Fluid, *Am. J. Physiol.* 124: 391-397 (Nov.) 1938.

calculated from the hematocrit was nearly double the value obtained by plasma volume determinations when the dye method was used.

That a loss of protein does occur is apparent from the values for serum protein concentration taken several days after transfusion. In several of the cases reported here the 40 Gm. of plasma residue injected contained more than half as much protein as the amount of protein calculated to be circulating in the plasma. The slightness of the rise in concentration of serum protein can be accounted for only by the assumption that some protein must have left the blood stream.

The loss of protein is understood more easily by realizing that the proteins of the plasma are probably in a state of equilibrium with the tissue proteins.¹⁰ The changes in serum protein and hematocrit following the injection of plasma are not predictable and depend on many factors which are not well understood.

While the complete explanation of the changes in serum protein concentration and hematocrit following the transfusion of plasma is lacking, the practical significance of these changes is illustrated by case 3



The effectiveness of solution of dried plasma in elevating blood pressure in shock after failure of solutions of acacia and dextrose. White man, aged 63. Exploratory laparotomy, inoperable carcinomatosis.

(shown in the chart). The signs and symptoms of peripheral circulatory failure developed after exploratory laparotomy, at which time inoperable carcinomatosis was found. The intravenous administration of 275 cc. of 6 per cent solution of acacia and 700 cc. of 5 per cent solution of dextrose was not followed by any sustained elevation of the low blood pressure. Shortly after the intravenous administration of 400 cc. of solution of dried plasma was started there was a striking improvement in the patient's general condition and a prompt return of the blood pressure to the preoperative level. There was a rather significant lowering of the hematocrit following the transfusion coincident with an elevation of the lowered blood pressure to the preoperative level. An effective increase in the volume of circulating plasma following the transfusion of solution of dried plasma is probably the explanation for

this. It is interesting to note the failure of solution of either acacia or dextrose to produce any sustained elevation of the lowered blood pressure. Comparable findings were obtained in the other cases in which treatment was given for postoperative shock.

REACTIONS

In three instances untoward symptoms were noted following the transfusion of solutions of dried plasma. Two patients complained of slight backache during the administration of plasma at a rate of about 25 cc. a minute. Following slowing of the rate the remainder of the transfusion was administered without further complaints. In both of these cases fever developed, the temperature reaching a maximum of 102 F. three hours after the transfusion and returning to normal four hours later. It was thought that in these cases the rapid administration of plasma obtained from group IV (O) blood to recipients having II (A) blood may have been an important factor in producing the reaction. Strumia, Wagner and Monaghan¹¹ have recommended that a rate of 5 cc. a minute be observed.

One patient had extensive edema and ascites and was moribund at the time of transfusion. Pulmonary edema developed after the administration of 150 cc. of solution of dried plasma at a rate of 2 cc. a minute. Although this patient died fifteen hours later, it was felt that the development of progressive pulmonary edema represented the terminal extension of the ascites and edema to the pulmonary system rather than an acute process dependent on a sudden increase in the blood volume due to the small transfusion of plasma.

Since a number of patients were febrile at the time of plasma transfusion it was not possible to determine in all instances the degree of fever following transfusion of solutions of dried plasma. However, in those cases in which there was no fever at the time of transfusion there was a variation of only 0.5 degree F. in the twenty-four hour period following transfusion of 400 cc. of plasma solution.

SUMMARY

From the evidence presented it appears that spray distillation under reduced pressure of approximately 15 mm. of mercury at 45 C. is an effective method for preparing human plasma in a dry state. This method is simple, rapid and economical. The addition of dry dextrose as a dispersing medium greatly increases the rate of solubility of the plasma residue. The use of sodium sulfathiazole as a preservative agent is effective in preventing bacterial growth in the solution of dried plasma. Thus it is possible to prepare plasma solutions several days before they are needed for use and an available small bank of plasma solution may be obtained.

The dried plasma residue obtained by spray distillation does not show evidence of significant alteration or deterioration during either the drying process or storage for ten weeks exposed to air and at room temperature. Solutions of such plasma possess properties comparable to those of fresh plasma in respect to the ability to increase the plasma volume and the total circulating plasma protein and to reduce hemoconcentration. That such properties are important from the practical side was shown by successful treatment of a patient with postoperative shock.

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ANTEPARTUM USE OF VITAMIN K IN THE PREVENTION OF PROTHROMBIN DEFICIENCY IN THE NEWBORN

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In an effort to evaluate the efficacy of vitamin K in the prevention of transient prothrombin deficiency in newborn infants and in the possible prevention of intracranial hemorrhage and hemorrhagic disease of the newborn, we report a study of 50 infants whose mothers were treated with vitamin K prior to delivery. The product used was 4-amino-2-methyl-1-naphthol hydrochloride, a synthetic preparation having vitamin K activity, 1 mg. per cubic centimeter,¹ administered parenterally.

Dam and his associates² reported that in normal children avitaminosis K, usually moderate, develops in the first days after birth and disappears after a week. Nygaard³ stated that a normal prothrombin time is maintained during the first ten hours after delivery but that definite reduction of the prothrombin content becomes apparent during the second half of the first day. This low level is continued during the following five days. From the sixth day prothrombin returns to the level found at the time of birth. Studies on the prothrombin content of the blood of some of the newborn infants with hemorrhage disclosed that in the majority of cases the onset of hemorrhage coincides with the period of transitory hypoprothrombinemia. Warner, Brinkhous and Smith⁴ expressed the belief that the prothrombin level is low at the time of birth and that about the third or fourth day of life the level falls still more. They also expressed the belief that intracranial hemorrhage develops in some cases on the third or fourth day of life when the tendency to bleeding is greatest. Quick and Grossman⁵ studied the prothrombin concentration of the blood of newborn infants and concluded that at birth the level of prothrombin in the infant's blood is relatively high but often drops precipitously during the first days of life and then is restored spontaneously. The frequency with which the prothrombin level falls in normal infants makes it highly probable that all infants are in danger of hemorrhage during the first few days of life. These investigators expressed the belief that the cause of prothrombin deficiency is an inadequate storage of prothrombin or of vitamin K in the fetus. The condition is clearly due to a lack of vitamin K, since the prothrombin can be restored promptly to normal by giving the baby an oral preparation of this vitamin. A serious fall in concentration may thus be prevented. Shettles, Delfs and Hellman⁶ concluded from their

studies that the plasma prothrombin level of the newborn infant can be raised not only by feeding vitamin K preparation directly to the infant after birth but also by administering it to the mother prior to delivery. The prothrombin levels of newborn infants obtained by administration of the drug to mothers were often three times as high as those usually seen and also were higher than those levels which could be attained by administering vitamin K preparation to the infant after birth. Waddell and Guerry⁷ reported on the prothrombin and clotting times of the blood of 20 newborn infants; 10 were used as controls and 10 received vitamin K preparation by mouth. In the 10 infants receiving the vitamin K preparation there was a prompt reduction in the prothrombin and clotting times, these infants having more plasma prothrombin than those in the control group. The same investigators⁸ later reported 4 cases of subclinical hemorrhagic disease associated with high prothrombin time. In each instance vitamin K preparation administered by mouth promptly reduced the prothrombin time to a safe and normal level within a few hours.

MECHANISM OF THE COAGULATION OF BLOOD

The most logical concept of coagulation is the one proposed by Morawitz⁹ and now widely accepted. According to his theory, four agents are required for the clotting of blood: prothrombin, thromboplastin, calcium and fibrinogen. The first three interact to form an active enzyme (thrombin) which reacts with fibrinogen, changing it to an insoluble gel (fibrin), which constitutes the clot. The process can be expressed as occurring in two steps:

1. Prothrombin plus thromboplastin plus calcium equals thrombin.
2. Fibrinogen plus thrombin equals fibrin.

Quick and others¹⁰ developed a simple procedure for determining prothrombin in blood, dependent on the observation that the clotting time of oxalated plasma when the plasma is mixed with an excess of thromboplastin and an excess of calcium can be employed as a direct measure of the prothrombin content of plasma. In other words, with thromboplastin and calcium constant the rate of coagulation is dependent on the concentration of prothrombin and serves as a simple and direct means for determining this important clotting factor in blood.

PROCEDURE

All blood was obtained from veins, the superior longitudinal sinus in the infants and the antecubital vein in the mothers being used. In a small test tube 1.8 cc. of blood was mixed with 0.2 cc. of 0.1 mol sodium oxalate solution and centrifuged. Then 0.1 cc. of plasma was mixed with 0.1 cc. of thromboplastin, the tube being agitated in a water bath at a constant temperature of 37.5 C. Next was added 0.1 cc. of 0.025 mol calcium chloride solution. The time from the addition of the calcium to the formation of a clot was recorded with a stopwatch. The time in seconds consumed to form the clot was recorded as the prothrombin time. A thromboplastin preparation giving a normal

From the Department of Obstetrics and Gynecology, University of Nebraska College of Medicine.

1. Parke, Davis & Co. supplied the vitamin K preparation (synkamin) used in this study.

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10. Quick, A. J.; Stanley-Brown, Margaret, and Bancroft, F. W.: A Study of the Coagulation Defect in Hemophilia and in Jaundice, *Am. J. M. Sc.* **190**: 501 (Oct.) 1935.

time of fifteen seconds with variations of two seconds either way was used.

Throughout this paper we shall speak in terms of prothrombin "time" rather than of prothrombin "level" or "concentration." It should be pointed out that a high

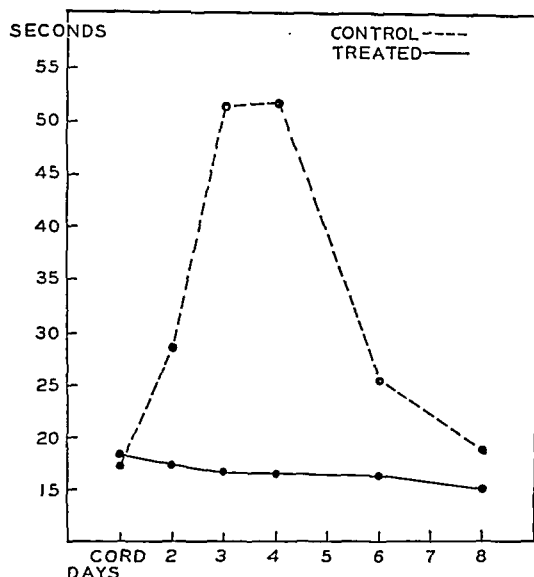


Chart 1.—Comparison of the average prothrombin times of 50 infants treated prophylactically with a vitamin K preparation before delivery and 50 control infants.

prothrombin time denotes a lowered prothrombin level and that a low prothrombin time indicates a high prothrombin level.

In this report 100 mothers and 100 infants were studied. Fifty of each were used as controls, and 50 were treated intravenously with 1 mg. of the vitamin K preparation, the patients being alternated as nearly as possible. The mother's prothrombin time was determined before the vitamin K preparation was given and again before and after delivery. Except in a few instances the infant's prothrombin time was taken from the cord blood at birth, and on the second, third, fourth, sixth and eighth days, from blood obtained from the superior longitudinal sinus. While we have obtained infants' blood by more than five hundred fontanel punctures without harm, the method has too many technical difficulties to recommend its routine use. The various cutaneous puncture tests have much to recommend them. The prothrombin readings were made by the Quick method.¹⁰ At least two readings were made on each specimen. The results were considered accurate when the readings on any one specimen of plasma checked within one and one-half seconds. The average of these readings is recorded in our tables.

RESULTS

There was a definite rise in the prothrombin time of infants whose mothers did not receive the vitamin K preparation before delivery. The average rise during the first four days was forty and sixty-two hundredths seconds. The greatest rise in any one case was two hundred and ninety-nine and seven-tenths seconds. Thirty-eight per cent of the infants had their highest prothrombin time on the third day, while 58 per cent had their highest time on the fourth day. After this rise there was usually a rapid drop to near normal levels on the sixth to the eighth day. In chart 1 the dotted line represents the curve of the prothrombin time of

the infants whose mothers did not receive the vitamin K preparation.

The solid line in chart 1 represents the average prothrombin times of the infants whose mothers received the vitamin K preparation before delivery. The average rise above the level at birth was one and eighty-eight hundredths seconds, the greatest rise in any one case nine seconds, and in many cases there was no rise at all. This graphically represents how definitely the prothrombin times were controlled by the antepartum use of the vitamin K preparation. To our knowledge, this is the first time that prothrombin deficiency in newborn infants has been prevented by the intravenous use of the vitamin K preparation administered to the mother before delivery.

With rare exceptions, newborn infants normally show this decided rise in prothrombin time during the first week of life. We encountered 5 infants (10 per cent) from the control series who did not show the usual rise in prothrombin time that was observed in the remainder of the control series. We have been unable to find an adequate explanation for these results.

We arbitrarily divided the treated mothers into two groups: 27 mothers received the vitamin K preparation two hours or less before the time of delivery, and 23 mothers received the vitamin two or more hours before delivery. This was done to learn whether the time of administration of the vitamin K preparation before delivery had any effect on the prothrombin time during the first week of the infant's life. Chart 2 shows that there was no appreciable difference in the prothrombin times in the two groups. In the first group 19 mothers received the vitamin less than thirty minutes before delivery, 2 of them receiving injections five minutes before and 3 between five and ten minutes before. The longest time between treatment and delivery was twenty-three hours and fifteen minutes. In no case did the infant fail to respond.

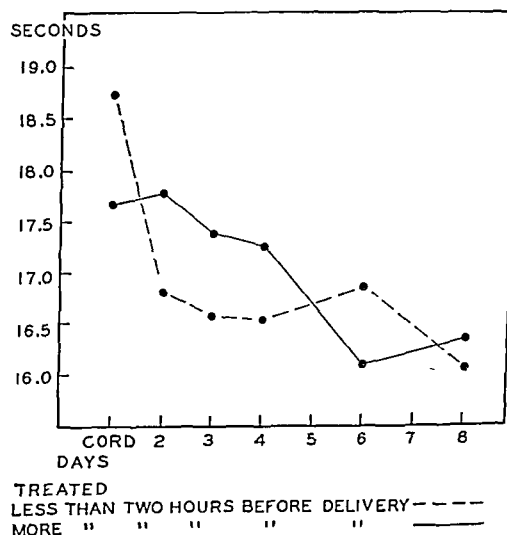


Chart 2.—Comparison of the average prothrombin times of 27 infants whose mothers were treated less than two hours before delivery and 23 infants whose mothers were treated more than two hours before delivery.

Six infants (12 per cent) in our control series had prothrombin times above ninety-five seconds. Of these only 1 had a normal cord prothrombin time. Another infant, not used in the series because of treatment with vitamin K, had an unusually high cord prothrombin time, and later hemorrhagic disease of the newborn

developed with a prothrombin time of five hundred and seventy-one and five-tenths seconds.

In the series of infants treated prophylactically 10 (20 per cent) had cord prothrombin times above twenty seconds. In 8 of these there was no subsequent rise, while 2 of them showed a slight rise.

The infant's prothrombin time may be markedly elevated and still the infant may not show signs of

TABLE 1.—*Maternal and Infant Prothrombin Times, in Seconds*

	Control Group	Treated Group
Average cord time.....	17.42	18.22
Average maternal time (antepartum)....	15.25	14.79
Difference	2.17	3.43

TABLE 2.—*Effect of Vitamin K Preparation on the Maternal Prothrombin Time*

	Control Mothers	Treated Mothers
Average antepartum time (seconds).....	15.25	14.79
Average postpartum time (seconds).....	14.95	15.77

hemorrhage. One of our control infants had a prothrombin time of three hundred and fourteen and seven-tenths seconds yet showed no sign of hemorrhage; but the time returned spontaneously to the level at birth.

Six infants, 5 of them not used in this series, were treated with the vitamin K preparation either because of bleeding or because of a high prothrombin time. In all but 1 the response was dramatic. The prothrombin time of 1 infant with hematemesis dropped from five hundred and seventy-one and five-tenths seconds to seventeen and four-tenths seconds in four and one-half hours. One of the 5 infants had lost a large amount of blood before vitamin K was given. This infant died about five hours after treatment with an even higher prothrombin time. All these patients received the same dose (1 mg.) of the vitamin K preparation intravenously.

The prothrombin times of the mother and of the infant at birth are shown in table 1. The maternal prothrombin time averaged two and seventeen-hundredths seconds less than that of the infants. These results agree with the observations of Quick and Grossman¹¹ and of Waddell and Guerry⁷ but appear to disagree with those of Kato and Poncher.¹² This discrepancy may perhaps be explained by difference in technic and time of obtaining blood.

The antepartum use of this vitamin K preparation had no toxic effects on the infants as far as the temperatures or weight curves were concerned. A single temperature reading of 100 F. (37.5 C.) or more was arbitrarily considered abnormal. On this basis, 18 per cent of the control infants had a temperature of 100 F. (37.5 C.) or more and 18 per cent of the treated infants had a similar rise in temperature. Both the control infants and the treated infants were cared for in the nursery under identical conditions.

Table 2 shows that in both the control group and the treated group of mothers the prothrombin times

were similar and showed no change of any consequence. All maternal prothrombin times were normal and showed slight response to the administration of the vitamin K preparation.

COMMENT

In this study we have presented evidence that the prothrombin time of the newborn infant can be lowered by the intravenous administration of vitamin K preparation to the mother before delivery. The average newborn infant has a higher prothrombin time than the mother, as the infant possesses a smaller fraction of prothrombin complement than the adult. Certain infants have a tendency to bleed under the stimulus of moderate trauma. Unusually high prothrombin times may well account for such unnatural tendencies to bleeding. Vitamin K preparation administered intravenously to the mother before delivery effectively prevents prothrombin deficiency in the newborn infant and probably serves to check such bleeding and render harmless a slow, oozing hemorrhage.

Our study also shows that irrespective of the time that the vitamin K preparation was administered to the mothers by the intravenous route, whether five minutes or twenty-four hours before delivery, the infants' cord prothrombin times were practically identical. The same may be said of the prothrombin times in the two groups of infants during the first eight days of life. This seems to indicate clearly that the placenta offers no barrier to the passage of the vitamin K preparation. It should be recalled that the molecule of this vitamin K preparation is relatively small and, according to Needham,¹³ small molecules pass through the placenta easily, larger molecules less easily and still larger molecules not at all.

Because vitamin K is so effective in small doses (1 cc. ampule) and is easily administered intravenously to the infant by way of the maternal blood stream and because it is apparently nontoxic, we believe that this vitamin should be used prophylactically in all labors, even though there is no opportunity to give the vitamin until late in labor.

It seems likely that a high prothrombin time (low prothrombin concentration) is an important factor in cases of neonatal cerebral hemorrhage. In these cases this vitamin K preparation offers a rational way of preventing bleeding. Because cord prothrombin times are normal or near normal, vitamin K preparation cannot be expected to have much effect on the hemorrhage occurring at the time of delivery but should definitely decrease the amount of hemorrhage that may occur eight or more hours after delivery during the period of prothrombin deficiency.

In 1920 Rodda¹⁴ reported that postmortem examinations revealed cerebral hemorrhages in more than 50 per cent of all infants who died intra partum or during the first few days of life. It was notable that these observations often were made after noninstrumental or even easy delivery. They were especially frequent after breech presentations and in premature births. Rodda pointed out that what had not been realized sufficiently in the past was the extent of hemorrhagic disease in the newborn represented by delayed coagulation time and prolonged bleeding time and that cerebral hemorrhage is not always caused by obstetric operations. In such

11. Quick, A. J., and Grossman, A. M.: The Concentration of Prothrombin in the Blood of Babies, *Proc. Soc. Exper. Biol. & Med.* **40**: 647 (April) 1939.

12. Kato, Katsuji, and Poncher, H. G.: The Prothrombin in the Blood of Newborn, Mature and Immature Infants, *J. A. M. A.* **114**: 749 (March 2) 1940.

13. Needham, Joseph: *Chemical Embryology*, The Macmillan Company, 1932, vol. 3, p. 1497.

14. Rodda, F. C.: The Coagulation Time of Blood in the Newborn, *J. A. M. A.* **75**: 452 (Aug. 14) 1920.

cases Rodda advocated the subcutaneous injection of whole blood to lessen the cerebral hemorrhages. This type of therapy has been used advantageously up to the present time, but it is our opinion that this vitamin K preparation is a more effective mode of treatment or prophylactic measure to employ.

When vitamin K preparation is used prophylactically it should be given to the mother as early in labor as possible, and if the labor is prolonged more than twenty-four hours it might well be repeated. If the patient presents herself late in labor, the vitamin K preparation may still be given advantageously, even as late as five minutes before delivery. This vitamin K preparation is especially indicated whenever the infant is likely to be premature, if the labor is prolonged or if operative delivery of any type is anticipated.

Used in treatment this vitamin K preparation should be given with the first sign of hemorrhage or with evidence of a decided drop in the prothrombin level. The prothrombin level, and not jaundice, is the indication of the bleeding tendency.¹⁵ If the loss of blood has been severe administration of vitamin K preparation should be supplemented with a transfusion. Apparently patients with more serious hemorrhages require more than vitamin K.

CONCLUSIONS

1. With rare exceptions newborn infants normally show a considerable rise in prothrombin time during the first week of life.

2. A vitamin K preparation (4-amino-2 methyl-1-naphthol hydrochloride) given intravenously to the mother before delivery effectively prevents prothrombin deficiency in the newborn and therefore may logically be expected to prevent hemorrhagic disease of newborn infants.

3. The time of administration of the vitamin K preparation makes no apparent difference in the results obtained, as vitamin K effectively controls the prothrombin level of newborn infants during the first week, regardless of the time of administration to the mother before delivery.

4. The infants' cord prothrombin time averages slightly more than two seconds higher than the maternal prothrombin time.

5. The vitamin K preparation has no gross toxic effects on the baby during the first week of life.

6. Labor has no effect on the mother's prothrombin time, even though this vitamin K preparation is not given.

7. Vitamin K probably has no effect on the hemorrhage occurring at the time of delivery but should definitely decrease the amount of hemorrhage that may occur eight hours or more after delivery.

8. There is evidence that this vitamin K preparation readily passes through the placenta.

9. Vitamin K preparation used in treatment effectively and rapidly reduces the prothrombin time.

10. Because it is so effective in small doses and is easily administered intravenously to the infant by way of the maternal blood stream, and because it is not toxic, this vitamin K preparation can be given routinely as a prophylactic measure. It should always be given (1) when the infant is likely to be premature, (2) if labor is prolonged and (3) if operative delivery of any type is anticipated.

1234 Medical Arts Building.

15. Quick, A. J.: The Nature of the Bleeding in Jaundice, *J. A. M. A.* 110: 1658 (May 14) 1938.

AERO-OTITIS MEDIA IN COMPRESSED AIR WORKERS

TREATMENT WITH HELIUM-OXYGEN MIXTURES

WILLIAM H. REQUARTH, M.D.

CHICAGO

Armstrong and Heim¹ in 1937 described a disorder of the middle ear caused by changes in atmospheric pressure during flight and subscribed the name "aero-otitis media" to it. This clinical entity, which is the result of blockage of the eustachian tube under changing atmospheric pressure, gradually has assumed an important position in the list of occupational diseases among pilots and other flying personnel. It is not limited to aviation medicine, however, and, as previously pointed out,² the significance of aero-otitis media is even greater in industrial groups because of its high frequency in workers in compressed air. The fluctuation of atmospheric pressure is greater in work done in compressed air, and a significant number of patients progress to suppurative otitis media with permanent impairment of hearing. Tubal blockage or impaired ventilation of the middle ear by the eustachian tube is the primary factor involved. Lovelace, Mayo and Boothby³ expressed the belief that helium-oxygen mixtures might be useful in relieving this impairment. Helium, with a molecular weight of 4, is the lightest of all elements and has a rate of diffusion two and seven-tenths times that of nitrogen. They reasoned that in a mixture of helium and oxygen the helium would diffuse more rapidly through the eustachian tube. They subsequently employed the gas in a series of cases the results of which indicated that it definitely helped relieve tubal blockage.

This work stimulated me to investigate its efficacy in the aero-otitis media of workers in compressed air. The extensive tunneling operations under increased atmospheric pressure in the construction of the Chicago subway system afforded an excellent opportunity to study a large series of cases. My purpose in this paper is to review the syndrome of aero-otitis media among workers in compressed air and to outline my regimen of treatment of 400 men. The series has been divided into two groups of 200 consecutive workers each. In one helium was not used, and in the other helium-oxygen mixtures were employed as a method of treatment. The results in each group are tabulated and compared.

Aero-otitis media is an acute or chronic disease of the middle ear caused by occlusion of the eustachian tube in the presence of a changing atmospheric pressure. Pathologically it is characterized by deformity and hyperemia of the tympanic membrane and serous or sanguineous exudate in the middle ear and clinically by tinnitus, pain in the ear and impairment of hearing. Its most frequent complication is perforation of the

Mr. Albert E. McKee of the Oxygen Equipment and Service Company, 423 South Honore Street, Chicago, constructed the apparatus for administering helium-oxygen mixtures under pressure.

1. Armstrong, H. G., and Heim, J. W.: The Effect of Flight on the Middle Ear, *J. A. M. A.* 109: 417-421 (Aug. 7) 1937.

2. Requarth, W. H., and Benson, R. E.: Compressed Air Illness with Special Reference to the Middle Ear, *Indust. Med.* 9: 115-121 (March) 1940.

3. Lovelace, W. R., II; Mayo, C. W., and Boothby, W. M.: Aero-Otitis Media: Its Alleviation or Prevention by the Inhalation of Helium and Oxygen, *Proc. Staff Meet., Mayo Clin.* 14: 91-96 (Feb. 8) 1939.

drum with subsequent suppuration and occasional permanent auditory impairment.

ANATOMY AND PATHOLOGIC PHYSIOLOGY

The middle ear is a closed cavity whose only means of ventilation is the eustachian tube. This structure is approximately 36 mm. in length; normally its lumen is obliterated by apposition of the walls of the tube. It may be opened by contraction of dilator muscles during yawning and swallowing. Patency of the tube assures equalization of any differences in pressure which may exist between the middle ear and the nasopharynx. The tympanic membrane being the only wall of the middle ear which is not fixed, any difference in pressure immediately is manifested by retraction or bulging of the membrane. This deformity, which may result after a change in pressure of as little as 3 to 5 mm. of mercury,¹ causes first a feeling of pressure in the ears, then impairment of hearing. As the discrepancy in pressure increases, severe pain is experienced, the ear drum is forced inward, and a relative negative pressure exists in the middle ear. With increase in the environmental pressure the relative negative pressure increases in the middle ear with subsequent swelling of the lining mucosa and outpouring of exudative fluid. A small vessel occasionally may rupture and fill the space with blood, which drains through the tube into the pharynx. It is not unusual for tunnel workers to endure, momen-

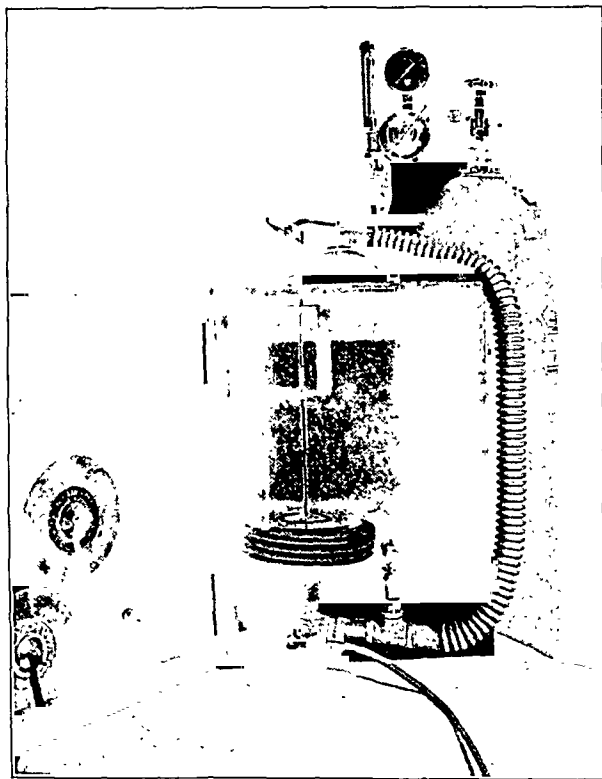


Fig. 1.—Apparatus designed for the administration of helium and oxygen mixtures under a constant positive pressure, consisting of a mask, breathing tube, spirometric breathing bag, calibrated type spill valve and weights for producing pressure in the system.

tarily, pressures of 12 to 15 pounds (5.4 to 6.8 Kg.) without clearing their ears. The pain is severe, but I have never seen a ruptured drum, although the middle ear under such circumstances invariably is filled with bloody fluid.

ETIOLOGY

The most important predisposing factor of blockage in my experience is an infection of the upper part of the respiratory tract. Of the workers observed, 96 per cent suffered with the common cold, sinusitis or pharyn-

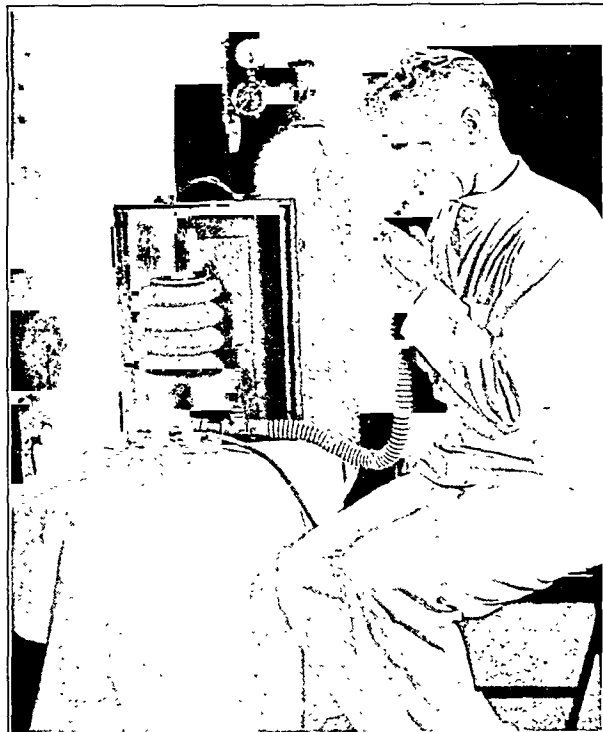


Fig. 2.—Apparatus in use.

gitis. The tubal blockage subsided with the infection of the upper part of the respiratory tract. Chronically diseased tonsils, carious teeth, sinusitis and similar diseases of the nose, mouth and throat are important causative factors. Anatomically, the eustachian tube is especially vulnerable, as the mucous membrane of the pharynx lines the tube and even continues into the middle ear itself. Infections readily are carried into the tube; the walls become edematous and the lumen is closed. In like manner, infection of the adenoid tissue about the pharyngeal ostium, called Gerlach's tonsil, aids closure at this point. Other etiologic factors listed by Armstrong and Heim¹ include nasal obstructions, tumors and growths of the nose and nasopharynx, paralysis of the soft palate or superior pharyngeal muscles and scar tissue about the ostium of the tube after adenoidectomy. Costen⁴ and later Willhelmy⁵ demonstrated that any factor which shortens the vertical position of the lower jaw, such as absence of teeth, poorly fitting dental plates or considerable overbite, causes a stenosis of the tube due to relaxation of the surrounding soft tissue.

Workmen in compressed air are particularly predisposed to disorders of the upper part of the respiratory tract. This can be logically explained. Air under pressure has a higher temperature due directly to the mechanics of compression. The collecting chambers on

4. Costen, J. B.: A Syndrome of Ear and Sinus Symptoms Dependent upon Disturbed Function of the Temporomandibular Joint, *Ann. Otol., Rhin. & Laryng.* 43: 1-15 (March) 1934.

5. Willhelmy, G. E.: Ear Symptoms Incidental to Sudden Altitude Changes, and the Factor of Overclosure of the Mandible: Preliminary Report, *U. S. Nav. M. Bull.* 34: 533-541 (Oct.) 1936.

the surface, used for storage, frequently are exposed to sunlight, which further raises the temperature. Daily temperatures recorded in the headings of tunnels often reach 86 F. (30 C.). As the pressure is released, the air vaporizes and the temperature drops. The workman

TABLE 1.—Comparison of Time Lost from Work, Infection and Suppuration in Treated and Untreated Workers

	Cases	Upper Respiratory Infection Present	Lost Time from Work	Suppuration
Series 1: no helium.....	200	191 95.5%	90 45.0%	9 4.5%
Series 2: helium.....	200	191 95.5%	67 33.5%	3 1.5%

thus suddenly is transferred from a warm environment to the cold damp conditions of the lock.

SYMPTOMS

The onset of the ailment is associated with the initial increase in atmospheric pressure as the workman enters the lock. Symptoms range from slight impairment of hearing and feeling of pressure in the ear to decided auditory impairment, tinnitus and severe auricular pain. The patient often expectorates small quantities of bright red blood; occasionally there is hemorrhage from the external ear. Examination in the ordinary case of mild aero-otitis media reveals a retracted tympanic membrane which may have a typical dusky red hyperemia. A small amount of fluid may be seen in the middle ear. In cases of more severe otitis the middle ear is filled with serosanguineous fluid, the drum is a dark bluish red and there is a middle-ear type of deafness. The less severe disorders subside in twenty-four to forty-eight hours, the drum resumes its normal appearance and the hearing is unimpaired. Aero-otitis media associated with much fluid in the middle ear resolves slowly over a period of several days to several weeks. Hearing returns as the fluid resolves. In a significant number of patients the fluid becomes infected, perforation occurs and typical suppurative otitis media results. This is the only complication of aero-otitis media in tunnel workers and, as its sequel, may produce permanent auditory impairment.

TREATMENT

In the prophylactic treatment of aero-otitis media, preemployment physical examinations assume an important role. Persons predisposed to infections of the

TABLE 2.—Clinical Results in Workers Treated with Helium

	No Relief or Results Questionable	Moderate Relief	Complete Relief
Number of cases.....	52	38	110
Percentage of total.....	26	19	55

upper part of the respiratory tract should be eliminated by careful examination. As prophylaxis, the following regimen is recommended:

1. A general physical examination before employment, certain factors being emphasized:

(a) Careful questioning with respect to previous experience in compressed air and history of a recently discharging ear or sinusitis.

(b) A critical examination of the nose and throat for evidence of pharyngitis, sinusitis, nasal polyposis or extremely carious teeth accompanied by low grade gingivitis.

(c) Elimination of important predisposing factors, such as badly fitting dental plates, lack of molar teeth and other causes of improper dental occlusion which allow overclosure of the mandible.

(d) Careful inspection of the ear drums for scarring, infections and evidence of old perforations. It has been my experience that unhealed perforations which are not infected may be passed.

(e) An accurate measure of the hearing as a safeguard to the workman and to the employer. The use of the audiometer is recommended.⁶

2. The daily elimination of workers suffering with colds and sore throats, although ideal from the standpoint of prevention, is practical only in small scale construction operations.

3. Much can be accomplished by adequate instruction of employees regarding prevention. This should include a demonstration of the Valsalva inflation of the ear. Lock tenders should stop after every 2 to 3 pounds (0.9 to 1.3 Kg.) increase in pressure and ascertain whether all workers have opened their ears. Those who have failed to should be referred to the physician for treat-

TABLE 3.—Condition of Tympanic Membrane in Workers Treated with Helium

	Number Observed	Normal	Slightly Infected	Deeply Infected	Fluid or Perforation
Number of cases.....	239	76	109	25	26
Percentage of total.....		32.2	46.0	10.5	11.0

ment. This is important, as many men otherwise will remain in the lock and attempt to open their ears by vigorous inflation. It has been shown¹ that after a negative pressure of 90 mm. of mercury has developed in the middle ear it is impossible for the tube to open. An extravasation of fluid and blood, in the meantime, fills the middle ear.

Actively, treatment is directed toward equalization of the pressure in the middle ear by reestablishing patency of the eustachian tube. The nose is sprayed thoroughly with a 2 per cent solution of ephedrine sulfate in physiologic solution of sodium chloride preparatory to the administration of helium.

HELIUM

The gas is given in a mixture consisting of eighty parts of helium and twenty parts of oxygen. I originally employed the Boothby mask as advocated by Lovelace.³ This was satisfactory in most instances, but in more resistant aero-otitis media the use of the Politzer bag immediately after treatment often relieved the block. It occurred to me that if the gas were breathed under positive pressure a greater number of satisfactory results would be obtained. Consequently an apparatus, mounted in a case to facilitate transportation, was designed for the breathing of mixtures of helium and oxygen under a constant positive pressure (fig. 1). It consists essentially of a mask, a breathing tube, a spirometric breathing bag, a calibrated spill valve of the

6. Hayden, A. A.: Audiometers and Hearing Aids, J. A. M. A. 110: 723-725 (March 5) 1938.

gravity type and weights for producing pressure in the system. The positive pressure can be regulated from 6 mm. to 32 mm. of mercury. The average patient obtains relief in four minutes at a rate of flow of 8 liters a minute and a pressure of 12 mm. of mercury. Patients with more obstinate aero-otitis media may require ten minutes. My experience, however, indicates that longer treatment is useless. Treatments are begun immediately after the patient leaves the lock. Although helium would seem more effective if administered during the change in pressure, extensive experiments in the lock itself did not support this belief. The cost per treatment is approximately 30 cents.

Of the 400 tunnel workers with aero-otitis media whose cases I recorded 200 consecutive workers were treated in the conventional manner as controls and 200 with helium-oxygen mixtures. The records as regards time lost from work, suppurative otitis media and presence of infection of the upper part of the respiratory tract are presented in table 1. Table 2 shows the results obtained with helium as indicated by relief of tubal blockage. The condition of the tympanic membrane in this series is recorded in table 3. Drums which showed little change from normal were recorded as "slightly injected"; those with extensive injection and hyperemia were recorded as "deeply injected." Evidence of gross fluid or post-tympanic hemorrhage also was recorded.

COMMENT

Several interesting observations can be made from these data. The high percentage of infections of the upper part of the respiratory tract emphasizes the common cold as a causative factor. The fact that in 3 to 4.5 per cent of the cases no history or clinical evidence of infection was available does not necessarily mean that there was none; judging from the high percentage which did present this evidence, a subclinical infection probably did exist. Patients treated with helium lost fewer days from work. Most important from the industrial point of view is the decrease in suppurative otitis media from 4.5 per cent in series 1 to 1.5 per cent in series 2.

More than one half of the series were relieved completely, and 74 per cent were benefited by helium-oxygen mixtures. An analysis of the causes of failure in 26 per cent revealed that 23 per cent of the ear drums in this group showed perforation, gross fluid or extensive changes. In the latter group, patients classified as "deeply injected" probably had some exudative fluid in the ear not determined by ordinary examination. I believe that helium is of no value when the middle ear is filled with blood or fluid. The 74 per cent who were relieved correspond roughly with the 78.2 per cent who had either normal or slightly abnormal drums.

Comparison of these two series demonstrated the efficacy of helium-oxygen mixtures in the treatment of aero-otitis media. The efficacy of the gas is limited to patients in whom there is little or no change in the tympanic membrane and the middle ear contains little or no fluid. In the presence of hemorrhage or large amounts of fluid, no response is obtained.

SUMMARY AND CONCLUSIONS

1. A regimen of prophylactic and active treatment using helium-oxygen mixtures was developed for the syndrome of aero-otitis media in tunnel workers.

2. For obtaining a comparison of the results of treatment with and without the use of helium, the workers were divided into two series, each of which consisted of 200 patients.

3. In the helium series, only 33.5 per cent of the patients lost time from work and 1.5 per cent progressed to suppuration, as compared to 45 per cent who lost time and 4.5 per cent who had suppuration in the series of controls.

4. Helium-oxygen mixtures afforded complete relief of tubal blockage in 55 per cent and moderate relief in 19 per cent of the patients. The 26 per cent of failures corresponds roughly to the number of ear drums which showed evidence of perforation, gross fluid in the middle ear or extensive changes in the drum itself.

5. The efficacy of the gas is limited to patients with little or no change in the tympanic membrane and little or no fluid in the middle ear.

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Clinical Notes, Suggestions and New Instruments

MASS TESTING OF COLOR VISION

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Routine examinations of the sense of color are becoming increasingly important both in connection with occupation in peaceful pursuits and in relation to the national defense. As often as not, a test of color vision must be made when a large number of examinees is present. Any reliable method of testing a sizable group at one time will confer an obvious boon and will naturally be applicable in situations in which a color vision test, though desirable, has not customarily been given because of lack of time or of sufficient examiners.

An exact diagnosis of a given deficiency in color vision can be made only with a Nagel anomaloscope in the hands of an expert. But for practical purposes it usually suffices to be able to say "deviation from normal trichromatic vision—unfit for special service." Such a diagnosis can be made simply and with a minimum of error with Stilling or Ishihara charts. Used according to directions, these will disclose any important deviation. Errors are likely to be made in the direction of safety, an occasional "normal" person being rejected as "abnormal."

Berens and Stein¹ recently described a method for group testing, employing Kodachrome lantern slides of standard charts (Ishihara, Stilling) projected on a beaded screen in a dim (not dark) room, enabling the observers to make pencil notes of the characters they can decipher. This ingenious method is likely to be widely adopted, but it contains certain pitfalls which need pointing out if serious failures are not to endanger its repute.

The aforementioned charts depend on the principle that if the brightness and saturation (coloredness) of two differently colored stimuli are equated, the stimuli will look alike to any one who cannot distinguish their colors (hues) as such. Since exact matches of saturation and brightness would be difficult and expensive to reproduce on paper and would have to be used under a particular and critical illumination, each chart simply presents a numeral composed of colored dots of various degrees of brightness and saturation at random, on a background of other, differently colored dots having the same range of brightness and saturation. There is thus no demarcation of the numeral from its background in any quality except hue.

1. Berens, Conrad, and Stein, Lester: Group Color Vision Tests, *J. A. M. A.* 113:1563-1564 (Oct. 21) 1939.

The appearance of any object depends, however, on the kind of illumination and on the adaptation of the observer. A red and a green indistinguishable under white light by a person with a deficiency in color perception will be made easily discriminable by him if the colors are illuminated by an off-white light which is reflected more from one of the objects than from the other. Then, too, any approach toward dark adaptation will create a difference between the "identical" red and green through the medium of the well known Purkinje phenomenon: the red will become relatively less bright and the green relatively brighter as dark adaptation supervenes.

The Ishihara and Stilling charts are intended to be used in daylight, at a distance of 30 inches and with thoroughly light-adapted subjects. Any artificial illumination introduces the danger that it may not be perfectly neutral (i. e., white), and if it is not intense the subjects may partially dark-adapt. It is clear that any mass test with projected charts should be made with an arc or blue mazda projection illuminant in a daylight-lit room and with a "daylight" screen. Otherwise, actually defective persons will be able to read numerals which, for them, should blend with the spotted background.

Even with this source of failure eliminated there remains another, related to the size of the projected images. An examiner will naturally be tempted to crowd as many subjects into the room as possible, the crowding resulting in great individual differences in distance from the screen and consequent differences in size of the retinal image. Berens and Stein have made the point that the visual acuity of the subjects need not be normal, since the screen images are so large; but if the group includes persons with uncorrected refractive errors this will be equivalent to having such persons hold the actual charts at a distance other than the prescribed 30 inches.

Enlarging the charts out of proportion to their angular size at 30 inches will do no harm if the subject is known in advance to be normal, but obviously he is not. The harm is potential with a certain large class of persons with defective color vision, who far outnumber those with hereditary color-blindness, i. e., the "anomalous trichromats." Many of these persons can identify color stimuli accurately if they are presented over a sufficient period of time or over a sufficiently large area. But they cannot tell the color of a short flash such as is given by a naval Ardois signal, and they must be closer (than the normal person) to a steady light, such as a railroad beacon, so that it may subtend a sufficient visual angle.

Persons with such deficiencies should certainly not be allowed to slip past military, naval and railroad examinations. But if projected Ishihara tests are enlarged too greatly, obviously many anomalous trichromats will pass them, later to become sources of grave danger to their fellow-men if allowed into critical services. It therefore needs to be urged that users of the Berens-Stein method avoid testing groups so large that any person has to be seated close to the screen or so large that the images have to be made enormous for the benefit of those in the back rows. It will probably be found impractical to expose the slides for short enough periods to detect anomalous trichromats through their temporal peculiarity—too many of the mentally sluggish normal examinees will complain that they are being hurried. There is all the more reason, therefore, for avoiding any artificial aid to anomalous trichromats in the form of a huge retinal image.

CONCLUSIONS

The Berens-Stein method of mass testing for deficiencies in color vision will yield the most dependable results if (a) the images of the charts are projected with a pure white light, (b) the room is illuminated by sunlight, and brightly enough to maintain light adaptation, with a "daylight" screen employed, (c) the group is small enough so that no person is too close to or distant from the screen and (d) the magnification of the screen images equals the quotient of the observer-screen distance divided by 30 inches.

Ophthalmic Research Laboratory, Wayne University College of Medicine.

Council on Physical Therapy

THE COUNCIL ON PHYSICAL THERAPY HAS AUTHORIZED PUBLICATION OF THE FOLLOWING CHAPTER, WHICH IS THE FIFTH OF A SERIES ON AMPUTATIONS AND ARTIFICIAL LIMBS TO APPEAR IN THIS COLUMN. WHEN COMPLETED, THE SERIES WILL BE PUBLISHED IN THE FORM OF A HANDBOOK ON AMPUTATIONS. THE COUNCIL WISHES TO EXPRESS ITS APPRECIATION FOR THE COOPERATION OF ITS GROUP OF CONSULTANTS ON ARTIFICIAL LIMBS. THE COUNCIL IS REPRESENTED BY DR. FRANK D. DICKSON, HARRY E. MOCK, FRANK R. OBER, S. PERRY ROGERS, PAUL STEELE AND PHILIP WILSON, AND THE ASSOCIATION OF LIMB MANUFACTURERS OF AMERICA IS REPRESENTED BY MESSRS. MCCARTHY HANGER SR., W. E. ISLE, JOSEPH A. SPIEVAK, DAVID E. STOLPE AND J. B. KORRADY.

HOWARD A. CARTER, Secretary.

CHAPTER VII. INTERRELATIONSHIPS OF THE ARTIFICIAL LIMB MANUFACTURER, THE SURGEON AND THE PATIENT

THE NEED FOR CLOSER COOPERATION

The successful rehabilitation of the patient should be uppermost in the minds of both the surgeon and the artificial limb manufacturer. Only by the closest cooperation between them can the best results be obtained. The surgeon should not feel that it is any reflection on his ability to confer and advise with the artificial limb manufacturer. The artificial limb manufacturer should willingly give of his time and experiences in such a conference. After all, both are specialists in their fields and the two are striving for the same best results. There should therefore be no overlapping of authority or any hesitancy on the part of either so to cooperate.

The surgeon should understand that the question of materials is relatively unimportant. The greater number of manufacturers use either willow or basswood in their limb construction. Some manufacturers, however, prefer metal or fiber, depending somewhat on the conditions around which each individual business has been built. Metal is exclusively used in the manufacture of the various types of joints employed in artificial limb construction. The principal requirement as far as materials are concerned is that they should be first class in every particular. The interest of the surgeon in this respect should be centered on knowing that only first class materials are being used by experienced manufacturers.

The surgeon need not have an intimate knowledge of the details of materials and construction of artificial limbs. He should be capable of some judgment on the various types of artificial feet and he should be familiar with the standard types of knee joints, hip joints and joint control mechanisms, but he should avoid fixed ideas on technical details which are primarily the concern of the limb manufacturer. He should know enough about methods of fitting appliances to realize the advantages of a personal fitting at the factory where the limb is being constructed rather than requiring the manufacturer to work from drawings and casts. Without himself qualifying as a leg maker he should appreciate that one or more such personal fittings are usually worth much in comfort and satisfaction to the patient.

The surgeon in his effort to rehabilitate his patient to the greatest possible extent should acquaint himself with the various artificial limb manufacturers doing business in his immediate territory. He should give careful consideration to the character of each company, to its financial integrity and to its reputation for dealing fairly with its customers. As the most important consideration of all he should ascertain the ability of its fitters to produce a socket which will fit comfortably

and to set up an appliance in proper balance and alignment. Such information can be obtained most readily by calling on the manufacturers and by interviewing patients and acquaintances wearing artificial limbs.

THE ETHICAL RELATIONSHIPS OF THE LIMB MANUFACTURERS

The Association of Limb Manufacturers of America has adopted a Code of Ethics which must be subscribed to by every member of that organization. Seven articles of that code deal with the manufacturer's relationships with the surgeon and the patient, as follows:

CODE OF ETHICS

ARTICLE 1.—It is forbidden to credit or agree to credit the payment of a deposit already made to another manufacturer on the price of a limb, or to cause a person who has already placed a bona fide order for an artificial limb with another manufacturer to cancel such order; provided that, if any manufacturer is unable or unwilling within ninety days to produce the limb ordered by the customer, such customer may place, and a member may receive, an order for a limb, notice being duly given to the first manufacturer of the intended action.

ARTICLE 2.—It is forbidden to make untruthful or derogatory statements about a competitor, his product, his character, his associates or his employees, or to make untruthful statements about his financial standing. It is forbidden to exhibit, or cause to be exhibited, samples or alleged samples of a competitor's products for derogatory purposes.

ARTICLE 3.—It is forbidden to make or publish or cause to be made or published, directly or indirectly, any false, misleading or deceptive statements or representation by way of verbal statements, depictions, advertising or otherwise, concerning the grade, material, construction, operation, use or durability of any products of the industry, or in any other material respect.

ARTICLE 4.—Demonstration of a member's products in a manner calculated to mislead or deceive the prospect is prohibited.

ARTICLE 5.—It is forbidden for a member of the industry securing orders through agents or other representatives furnished with samples, literature and guaranties by such members, subsequently, to refuse to carry out the terms, conditions and guaranties made by such agent or representative.

ARTICLE 6.—It is forbidden, directly or indirectly, to interfere with or entice an employee to leave the employ of any other member of this association or to refuse to help a member of this association to acquire and maintain the services of competent workmen.

ARTICLE 7.—It is forbidden to use membership in this association for the purpose of advancing one's own business interests to the injury or detriment of any other member, or to solicit orders by making promises impossible or uncertain of fulfillment.

THE COUNCIL ON PHYSICAL THERAPY HAS AUTHORIZED PUBLICATION
OF THE FOLLOWING REPORTS.

HOWARD A. CARTER, Secretary.

BRAM-MASSEUR NOT ACCEPTABLE

Manufacturer: Brammer Manufacturing Company, 1441-1501 Rockingham Road, Davenport, Iowa.

In a communication to the Council from the manufacturer of the Bram-Masseur it is stated that ". . . the Bram-Masseur is the *only true whirlpool bath water massage* for sale in the United States today. . . . It is, indeed, a true whirlpool bath of an efficiency in hitherto unattainable by any device on the market and uniquely in a class by itself."

The Council investigated the apparatus clinically and it was found that the Bram-Masseur has a small tank (14.5 by 12.5 by 7 inches) with a capacity of 3½ gallons of water. At the bottom of one end of the tank is a motor-driven disk with smooth elevations. In operation, this disk revolves rapidly and churns the water in a manner somewhat similar to that of a disk in a washing machine.

The tank is too small for the feet to be submerged in it unless they touch the revolving disk, and also too small for the forearm to be immersed up to the elbow. When the apparatus is in operation, the elevated areas of the revolving disk pound the foot or the hand in the water; this action is much too rigorous unless the member being treated is practically normal. The use of the device in the treatment of painful hands or feet would be out of the question if the vibrator was permitted to hit them.

In the advertising matter, statements are made to the effect that this apparatus obtains in ten minutes results at least comparable to manual massage for thirty minutes. There is no critical evidence to substantiate this statement. Included in the advertising is a long list of indications, in many of which it would be undesirable to use such an apparatus.

In the mimeographed sheet called "Salesman's Non-Technical Sales Talk on Uses of Bram Masseur," such statements are made as "Relieve certain types of headache and backache. . . . Women under emotional strain or overwork, fatigue, find immediate relief that lasts for an hour or more enabling them to get their bodily strength back, ease their nerves and aches, and actually 'puts them on their feet again.'" In the opinion of the Council, these statements have not been substantiated by critical evidence.

The Council voted not to include the Bram-Masseur in its list of accepted devices because (1) evidence of a critical nature has not been made available to substantiate its efficacy and (2) exaggerated and unwarranted statements are made in the advertising.

DR. SHRADER'S EAR PUMP NOT ACCEPTABLE

Manufacturer: T. B. Shrader Ear Pump, Syracuse and Lincoln, Neb.

Dr. Shrader's Ear Pump, advocated by the manufacturer for use by deafened persons, consists of a rubber cup approximately the shape of a half sphere which is intended to be placed over the ear. Pushing on the knob will cause the rubber cup to collapse, thus creating pressure within its interior and transmitting this pressure to the ear drum. The alternate placing of pressure will therefore move the ear drum back and forth slightly. The many inquiries concerning the device which have come to the office of the Council indicate that it is being actively promoted. In the opinion of the Council, it was considered advisable to investigate this device, report on it and make this information available to the profession.

This apparatus is advertised and sold by T. B. Shrader, Syracuse and Lincoln, Neb., who is apparently a chiropractor. Such claims as the following are made in the advertising: "Dr. Shrader's Ear Pump restored or improved hearing when other methods failed. Wonderful results obtained in treatment of head noises, ear ache, dry ears." Another statement reads "If you are afflicted with any of these common ear ailments, why continue to suffer when improvement could be made so readily and so simply?"

The device, which looks very much like the rubber end of the sort of plunger pump used to clean out plugged toilets and sinks, was investigated clinically by the Council, and it was found that "Dr. Shrader's Ear Pump" for the treatment of deafness may be a dangerous device when used by an inexperienced layman. The positive and negative pressure which the device is capable of exerting is sufficient in certain conditions, such as an atrophic tympani, to cause a rupture of that membrane.

Pneumomassage of the middle ear by alternate compression and rarefaction of the air in the external canal has long been practiced by otologists. In otosclerosis this procedure is considered to be futile, as it is in nerve deafness. In the opinion of most otologists it is of doubtful value in chronic adhesive, nonsuppurative types of otitis media. Although a competent otologist may at times employ pneumomassage, an inexperienced layman may do serious damage with a device as crude and uncontrollable as the "Dr. Shrader's Ear Pump."

The Council on Physical Therapy voted to declare Dr. Shrader's Ear Pump unacceptable for inclusion on its list of accepted devices.

DURATRON VACUUM TUBE HEARING AID NOT ACCEPTABLE

Manufacturer: C. L. Hofmann Corporation, 436 Boulevard of the Allies, Pittsburgh.

The Duratron Vacuum Tube Hearing Aid has been given consideration by the Council and the investigation revealed that:

The instrument consists of the following parts:

(a) Microphone and amplifier unit B. T. No. 330, enclosed in stamped metal case, 3 by 2 by 1 inches, weighing 94 Gm., fitted with volume and tone control, knurled heads on top of case.

(b) A and B batteries enclosed in a thin cardboard case, 4½ by 2½ by 1 inch, weighing 221 Gm. The A battery is a single 1½ volt cell, current drain 65 milliamperes. The B battery is 30 volts with a current drain of about 0.45 milliamperes.

(c) Crystal receiver ¾ by 1 inch diameter; weighing, with molded earpiece, 7 Gm.

Internal Noise.—The internal noise is not objectionable when the volume control is less than three fourths of full on and the tone control is about one half full on. For higher settings of the controls the instrument is electrically unstable and subject to feedback squeals.

Amplification.—The instrument gives no measurable amplification at 256 and 128 cycles. Measurement of the amplification at higher frequencies gave the following values:

	Amplification				cycles
	512	1,024	2,048	4,000	
Intensity approximately 45 decibels above normal threshold, volume ½, tone ½.....	7	20	23	2	db.
The same, volume ½, tone ¾....	10	22	23	4	db.
Intensity at normal threshold, volume ½, tone ¾.....	18	29	32	25	db.
The same, volume ½, tone ¾....	21	30	35	25	db.

Mechanical Features.—The durability of the sliding connectors may well be questioned, and the instrument might require frequent servicings on this account. There are no markings to indicate the proper connections, and index markings on the controls are lacking.

Advertising Statements.—The only advertising submitted was a small pamphlet of directions, in which the manufacturer makes claims for the "World's Smallest Vacuum Tube Hearing Aid" and sound amplification and "reproducing with absolute fidelity" and "without distortion." The latter statement is doubted, as shown by the fact that the instrument gives no amplification at the lower frequencies. This small booklet is said to be the "Exact size and shape of the New 'Duratron'" and is unacceptable to the Council since it contains many objectionable statements, among which are the following: ". . . tune in clear, natural hearing with DURATRON—the world's smallest vacuum tube hearing aid—and tune out forever harsh, irritating carbon distortion and noise." "DURATRON contains no carbon noise, just clear, natural hearing and true understandability of words, of music; yes, of everything—never before possible with any carbon instrument to this degree." "The pure, natural and life-like reproduction of all sounds gives you a natural, rested and relaxed feeling even after hearing with DURATRON all day. Now, you, too, can enjoy all the wonderful pleasures of hearing and understanding clearly the voices of those about you." It is realized by the Council that the instrument does not use a carbon granule transmitter; nevertheless, the statements are unacceptable because the instrument is still noisy.

The Council on Physical Therapy voted not to include the Duratron Vacuum Tube Hearing Aid on its list of accepted devices because of its objectionable mechanical features and unwarranted advertising claims.

The foregoing report was sent to the C. L. Hofmann Corporation on Aug. 26, 1940. In its reply the firm expressed surprise that the response curves set forth in the Council's report on the instrument were so different from those obtained by the manufacturer before the aid was submitted for consideration by the Council. It was suggested by the firm that the instrument may have been subjected to rough treatment in

transit and damaged; the Council was requested to return the instrument to determine if this had occurred. The Secretary did so, and stated that the report would be held in abeyance for sixty days.

September 3 the firm responded stating that it was interested in submitting a new hearing aid for test and asked for the Council requirements for acceptance of hearing aids. On September 13 acknowledgment of the receipt of the instrument was made by the firm. According to the manufacturer, the crystal receiver had changed in its characteristics and also the crystal microphone element had changed in response so that it was entirely different from that which was standard for the Duratron. The firm asked once more that the report be held in abeyance and renewed its request for requirements. The manufacturer stated "We will be glad to send you a unit for examination and test." On September 18 the Secretary furnished the firm a reprint of the requirements for acceptance of hearing aids (THE JOURNAL, May 11, 1940, p. 1881) with an explanatory note. These explanations in detail may be found in the article by Dr. Paul Sabine in THE JOURNAL, Nov. 9, 1940, page 1633. The reasons the Council did not accept the instrument were also restated in the letter.

In a reply October 2 the firm reiterated that the unit examined by the Council was not comparable to the usual Duratron and "Certainly had been changed in transit or elsewhere before being returned to us." The letter went on to state that the advertising examined by the Council had been used two years before in promoting the first model Duratron and that the other portion of the advertising was used on another model Duratron. According to the firm the only piece that applied to the Model V. T. (the type investigated) was the instruction book and that did not contain claims unacceptable to the Council. The manufacturer pointed out that the statement regarding the Duratron being the "smallest vacuum tube hearing aid" was exact at the time it was written and that the other objections found by the Council were not pertinent or material to the particular instrument under consideration.

In the Council's reply the firm was informed that the advertising examined by the Council was the material which had been submitted by the manufacturer and in accordance with the rules of the Council. Hence the Council assumed that the advertising was for the model Duratron undergoing investigation.

The firm replied that the matter had been placed in the hands of its attorneys, that the Council has no right to publish a report on the Duratron, saying ". . . we believe that this precedent can be set in regard to willful publication of reports or statements which are not entirely accurate" and that "the entire matter should be given some true spotlight publicity not only in regard to 'Duratron' but in regard to the acceptance of the various other aids which you have accepted." The manufacturer did not submit another instrument for consideration, although ample opportunity was given.

The function of the Council on Physical Therapy is to advise the medical profession and the public concerning the status of the apparatus it is importuned to use and to recommend. As pointed out to the manufacturer in correspondence, the Council has no desire to injure a firm's business. On the other hand the Council is never deterred from its duty to the medical profession by a threat of lawsuit.

An agent for the corporation in Denver has advertised in the Denver Post that the Duratron Hearing Aid is "Accepted by the American Medical Association." The manufacturer explained, when asked about it, that the agent did not have permission to use the acceptance statement.

The Council has given assurance to the C. L. Hofmann Corporation that a resubmitted instrument will be given careful consideration without prejudice.

Since the firm (1) has not submitted a new instrument, (2) has given no assurance that the advertising matter will be revised, (3) has an agent who announced the aid as accepted by the American Medical Association, the Council and its Consultants on Audiometers and Hearing Aids have voted to reaffirm the previous decision declaring the Duratron Hearing Aid not acceptable for inclusion in the Council's list of accepted apparatus.

SILENTAIRE NOT ACCEPTABLE

Manufacturer: Berger Manufacturing Company, 228 North La Salle Street, Chicago.

The Silentaire is a window filter housed in a metal cabinet. Louvers extend across the entire removable front of the cabinet, which is fastened with a set screw and are adjustable to direct the flow of air. Mounted in the chassis are two sirocco blowers and the motor; they are easily removed for repairs. Along the base of the unit, under the motor mounting, is a slot into which slides the filter cell. By adjusting the position of the filter cell, it is possible to have an entire recirculation of the inside air, to admit all outside air or to have a mixture of the two. The adjustments are made with a knob under the filter unit.

The filter cell incorporated in the unit submitted for the Council's consideration is manufactured by the Research Products Company of Milwaukee and is known as the Walton Filter Cell. It consists of a honeycomb series of small paper tubules arranged in layers. Each layer is directed at an angle approximating a right angle to the next layer, in a herringbone effect. The filter cell measures approximately 29 by 10 by 1 inches and is impregnated with a viscous oil.

In the Council's investigation the unit was mounted in a frame between a closed chamber and a room. Greased slides were placed before the outlet louvers of the unit, and then 0.1 Gm. of ragweed pollen which was mixed with 2 Gm. of dust varying in size was admitted to the chamber. The unit was started and the slides were examined for pollen grains and dusts which may have passed through the filtering mediums. Slides removed at intervals during the first hour showed many pollen granules, many clumped and some adhering to dust particles. The unit was then permitted to run for two days, and the pollen mixture was again admitted to the chamber. Although there were fewer pollen grains on the slides at this second observation, there were nevertheless many times more than found in filters which are considered efficient for pollen removal.

This type of filter has a lower efficiency for removal of pollen from the air when fresh and new, the efficiency increasing as the filter loads up; but this is most undesirable when it is to be used in filtering the air for persons who are sensitive to pollen.

The firm submitted six pieces of advertising in the form of one folder, a pamphlet and four one-page dodgers. Some objectionable statements found in the advertising are: "Silentaire Provides Low-Cost Air Conditioning. . . . Silentaire provides the essential health features of air conditioning at a cost within reach of practically everyone. In fact, Silentaire affords all of the advantages of air conditioning except refrigeration and extreme humidity control—and refrigeration may be added to the room at any time." The Council points out that the Silentaire is a window ventilator and in no sense of the word an air conditioner. An air conditioning unit, as defined by the Air Conditioning Manufacturers of America, provides many benefits not provided by the Silentaire.

In view of the results of the Council's tests, the following statement found in the folder is erroneous: "Tests have shown that the filter is 97½% efficient in removing pollen and bacteria—a boon for sufferers from sinus trouble, hay fever and certain types of asthma." Although the Council's tests involved only the elimination of pollen, it is improbable that the filter would be effective in the removal of bacteria, since it was ineffective in the removal of pollen.

One of the dodgers is entitled "Hay Fever Relief for Millions of Sufferers," and this statement is unsubstantiated by the investigator's report.

Much is made of what the pamphlet calls "The evils of the open window," and this unsubstantiated statement is made: "Science and experience have proved indisputably that the open window is a dangerous menace to physical and mental well being."

The Council voted not to accept the Silentaire for inclusion on its list of accepted devices because it is ineffective in the removal of pollen and because of the objectionable advertising.

Council on Pharmacy and Chemistry

NEW AND NONOFFICIAL REMEDIES

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED AS CONFORMING TO THE RULES OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR ADMISSION TO NEW AND NONOFFICIAL REMEDIES. A COPY OF THE RULES ON WHICH THE COUNCIL BASES ITS ACTION WILL BE SENT ON APPLICATION.

OFFICE OF THE COUNCIL.

SULFATHIAZOLE (See THE JOURNAL, Jan. 25, 1941, p. 308).

Sulfathiazole-Sharp & Dohme.—A brand of sulfathiazole-N. N. R.

Manufactured by Sharp & Dohme, Inc., Philadelphia. No U. S. patent or trademark.

Tablets Sulfathiazole-Sharp & Dohme, 0.5 Gm. (7.7 grains).

NICOTINIC ACID (See New and Nonofficial Remedies, 1940, p. 524).

The following additional dosage forms have been accepted:

Tablets Nicotinic Acid, 20 mg.

Prepared by the National Drug Co., Philadelphia.

Tablets Nicotinic Acid, 50 mg.

Prepared by the National Drug Co., Philadelphia.

Tablets Nicotinic Acid, 100 mg.

Prepared by the National Drug Co., Philadelphia.

The following products have been accepted:

NICOTINIC ACID-WYETH.—A brand of nicotinic acid-U. S. P. Manufactured by John Wyeth & Brother, Inc., Philadelphia.

Ampoules Solution Nicotinic Acid, 10 mg., 10 cc.: Each cubic centimeter contains 1 mg. of nicotinic acid in sterile physiological solution of sodium chloride.

Ampoules Solution Nicotinic Acid, 100 mg., 50 cc.: Each cubic centimeter contains 2 mg. of nicotinic acid in sterile physiological solution of sodium chloride.

Tablets Nicotinic Acid, 25 mg.

Tablets Triturates Nicotinic Acid, 50 mg.

BISMUTH SUBSALICYLATE (See New and Nonofficial Remedies 1940, p. 150).

The following product has been accepted:

Bismuth Subsalicylate in Oil with Chlorobutanol 3%.—Each cubic centimeter contains bismuth subsalicylate-U. S. P. equivalent to 0.05 to 0.06 Gm. of bismuth suspended in peanut oil. Three per cent chlorobutanol is added as a preservative and for its local anesthetic properties. Marketed in 2 cc. ampules and bottles of 20 cc., 60 cc. and 100 cc.

Prepared by Endo Products, Inc., Richmond Hill, N. Y.

SODIUM MORRHUATE (See New and Nonofficial Remedies, 1940, p. 486).

The following products have been accepted:

Ampules Sodium Morrhuate 5% and Benzyl Alcohol 2%, 2 cc.: Each cubic centimeter contains 0.05 Gm. sodium morrhuate and 0.02 Gm. benzyl alcohol in aqueous solution.

Prepared by the Lakeside Laboratories, Inc., Milwaukee.

Ampules Sodium Morrhuate 5% and Benzyl Alcohol 2%, 5 cc.: Each cubic centimeter contains 0.05 Gm. sodium morrhuate and 0.02 Gm. benzyl alcohol in aqueous solution.

Prepared by the Lakeside Laboratories, Inc., Milwaukee.

Vial Sodium Morrhuate 5% and Benzyl Alcohol 2%, 30 cc.: Each cubic centimeter contains 0.05 Gm. sodium morrhuate and 0.02 Gm. benzyl alcohol in aqueous solution.

Prepared by the Lakeside Laboratories, Inc., Milwaukee.

CARBROMAL (See New and Nonofficial Remedies, 1940, p. 167).

The following dosage form has been accepted:

Carbromal Tablets, 5 grains.

Prepared by John Wyeth & Brother, Inc., Philadelphia.

NICOTINIC ACID AMIDE (See New and Nonofficial Remedies, 1940, p. 526).

The following dosage form has been accepted:

Tablets Nicotinic Acid Amide, 50 mg.

Prepared by John Wyeth & Brother, Inc., Philadelphia.

PHENOLSULFONPHTHALEIN (See New and Nonofficial Remedies, 1940, p. 223).

The following dosage form has been accepted:

Ampuls Phenolsulfonphthalein-Breon: One cc. of solution contains 6 mg. of phenolsulfonphthalein in the form of its sodium salt, in physiological solution of sodium chloride.

Prepared by George A. Breon & Co., Inc., Kansas City, Mo.

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SATURDAY, APRIL 19, 1941

MENTAL HEALTH IN WAR TIME

If a normal, healthy impulse is forcibly repressed, according to Sir Walter Langdon-Brown,¹ it comes to the surface again in an abnormal form. If an evolutionary demand meets opposition from a nation which is convinced that its culture is the only one really worth having, the consequences to civilization prove serious. World War II is in essence therefore, he believes, the result of an attempt to stem the tide of an evolutionary process tending toward greater internationalism. Both constructive and destructive impulses are present in the human mind, and at times the destructive element predominates in society. The destructive impulse, Langdon-Brown believes, is rationalized by the claim that the old state of affairs was so bad that it had to be destroyed before anything better could take its place. There are those in our own country who even now are advocates of this philosophy. Since the ordinary person wants nothing more than to be left in peace, it has been, Langdon-Brown points out, a common device of absolute rulers to distract attention from internal difficulties by telling the people that some other nation is trying to deprive them of their heritage. The side effects of these psychologic conflicts are interesting: nations at war look instinctively for a leader; in times of national anxiety there is a regression to certain primitive mental traits, which is well illustrated in Germany by the ritual of driving nails into the gigantic wooden image of Hindenburg. A more common tendency is the making of myths—an escape from reality into fantasy. Rumors become rife and tend to exaggeration beyond all basis of fact. Curiously enough, spreading bad news appeals to vanity. Where facts are few, rumors are many. Both the demand for leadership and the reliance on myth and rumor arise from the same cause, and, as gregarious animals, we are all suggestible and never more so than when in danger. Mr. Wilfred Trotter pointed out that the physical dependence of the infant

develops later into suggestibility, which is psychic dependence—a necessary prerequisite of group life and activity. The dependence of infantile life thus develops into the interdependence of social and communal life. The individual, therefore, cannot be considered as a separate unit but only in relation to his social and communal surroundings.

The greatest enemy of mental health, Langdon-Brown states, is fear. The genesis of fear is the survival and sometimes the perversion of a defensive mechanism of great antiquity and real value: alertness in the presence of danger by which the whole organism is keyed for action. The mechanism is activated through the sympathetic nervous system, which prepares the body for fight or flight. If action is inhibited, however, the same mechanism produces fright. Then, as Crile has put it, the individual becomes like a motor car with the clutch thrown out: gasoline is consumed and the whole car may tremble from the violent action of the engine, but the car does not move. Thus scientifically the best corrective of fear is action.

A distressing form of fear is the fear of being frightened. This is clearly due to a conflict between two powerful instincts—the instinct of self preservation and the herd instinct. The best antidote is action as a member of a community, especially if under suitable leadership. The essentially disadvantageous position of the civilian in war time as compared with the soldier is thus clarified. The former has neither had the disciplinary training nor has he, as a rule, the advantages of community action.

The general experience in Britain so far bears out the report of a conference of medical men convened before the active stage of war began. They stated that an exaggerated estimate had been formed of the liability of war to produce nervous breakdowns. This has received substantiation since the intensified air raids on Britain have been in progress, for few nervous breakdowns have occurred in spite of the suffering and material loss. A writer in the *British Medical Journal* has explained this fact in an interesting way:

With the constant threat to the existence of the entire community constituted by repeated and indiscriminate bombing, a superb scapegoat is at hand. . . . The facility with which one can now project one's fear and anxieties is likely to be the most important one in preventing such breakdowns. The herding together of individuals in shelters in the face of common danger and the leveling-out process in society which is consequent upon universal hardship have no doubt been essentially responsible. Further, the opportunity for dramatization afforded by narrow escapes, etc., is a decided factor.

The danger underlying the herd feeling is panic, for groups are suggestible in a wrong as well as a right direction. Therefore, Langdon-Brown says, any one who goes about suggesting that an epidemic of nervous breakdowns is likely, for which there is really no ground, is doing what he can to produce panic. In addition to cooperative action as a means of preserving mental health in war time, Langdon-Brown considers that

1. Langdon-Brown, Walter: *Mental Health*, *Nature* 147: 193 (Feb. 13) 1941.

physical fitness undoubtedly helps. Sufficient sleep is also important, as are cheerful surroundings. For these reasons, shelter-life is apt to have an evil effect in the war of nerves. The blackout, unless countered by light within, also serves to contribute to the depression of nerves.

PHYSICAL DEFECTS OF DRAFTED MEN

Britten and Perrott¹ of the United States Public Health Service have summarized statistical data bearing on the physical defects observed in men examined during the draft of 1917-1918. The information is of particular interest at this time in connection with a suggested program of physical rehabilitation of registrants disqualified for general military service.² Furthermore, it affords some indication of the number of men who will be classified as unavailable for duty with the armed forces during the present period of selective service owing to physical impairment.

The information contained in the report is based largely on a study of a particular group of drafted men, the so-called second million, who were examined at camp after May 1, 1918. In addition, local board data, limited largely to reexaminations made under an order promulgated by the President on Nov. 8, 1917, were also considered. On this basis 21.3 per cent of drafted men were rejected, 9.9 per cent were placed in limited service groups and 52.1 per cent were found to have defects. Thus, about one third (31.2 per cent) were classified as not available for general military service. If this percentage should hold true at present, about one million, two hundred thousand men will have to be examined to meet the quota of eight hundred thousand men expected early this summer.

Of especial value are data on the prevalence of defects observed in those who were rejected or accepted for only limited service. Among the more important conditions were defective vision with a rate of 40.8 per thousand drafted men, crippled or paralyzed members 38.7, flat feet 32.4, underweight 29.6, vascular diseases of the heart 27.8, tuberculosis (all forms) 24.3, defective and deficient teeth 24.2, hernia 21.0 and mental deficiency 12.0. Numerous other defects, including blindness in one or both eyes, venereal diseases, defective hearing, otitis media, curvature of the spine, varicose veins and varicocele, goiter, hypertrophic tonsillitis, lost upper extremities, lost lower extremities, enlarged inguinal rings and tachycardia to mention only the more prominent, were also commonly observed, but in all cases the rate was considerably lower than that given for the first mentioned defects. Many of the diagnosis groups represent defects of which a large percentage may be remediable. As pointed out by Britten and Perrott,

the most frequently occurring of these conditions are defective vision, underweight, tuberculosis, defective and deficient teeth, hernia and venereal diseases.

ZINC AND TISSUE ENZYMES

Health depends largely on the maintenance of the enzyme systems within the cells of the body. Accordingly, substances in foods which serve as structural units of certain of these enzymes have a peculiar importance in the animal economy. A number of the vitamins function as essential components of enzyme systems concerned with processes of oxidation. Thus thiamine in the form of a pyrophosphoric acid ester is the enzyme cocarboxylase, important in the oxidation of pyruvic acid, an intermediate in carbohydrate metabolism. In a somewhat similar manner riboflavin is present in the yellow oxidation ferment of Warburg, and nicotinic acid functions as coenzyme in still another enzyme system. Now it appears from a recent detailed report by Keilin and Mann¹ that zinc, one of the trace elements in nutrition, is a constant ingredient of purified preparations of carbonic anhydrase.

Carbonic anhydrase has been known since 1933, when Meldrum and Roughton described its presence in the red blood corpuscles. Relatively high concentrations also have been found in the gastric mucosa, where the enzyme may be involved in the formation of the hydrochloric acid of the gastric juice. Carbonic anhydrase serves to catalyze both the breakdown and the synthesis of carbonic acid into carbon dioxide and water. It enables blood flowing through the tissues or the lungs to take on or give up carbon dioxide in a remarkably efficient manner. The demonstration of the presence of zinc in the molecule is of special interest, not only because of the importance of this enzyme in the dynamics of carbon dioxide transport by the blood, but also because this is the first instance of the existence of a biologic compound containing zinc which is important to higher mammals.

According to the calculations of the British investigators, 1 liter of blood contains about 1 Gm. of carbonic anhydrase. In the blood of the normal adult there would be a total of about 18 mg. of zinc in this form. Purified preparations of the enzyme made by different methods uniformly contained zinc to the extent of about one third of 1 per cent. This figure happens to be identical with the value for the amount of iron contained in hemoglobin. But how the zinc is combined with the protein part of the enzyme molecule, and what may be the nature of the prosthetic group, if present, are questions that still remain to be answered.

The observation that carbonic anhydrase contains zinc has been verified and extended by Hove, Elvehjem and Hart² at the University of Wisconsin. These investi-

1. Britten, R. H., and Perrott, G. S.: Summary of Physical Findings on Men Drafted in the World War, Pub. Health Rep. 56: 41 (Jan. 10) 1941.

2. Public Health in the National Defense Program: Summary of Proceedings, Conference of State and Territorial Health Officers with the United States Public Health Service, Washington, D. C., Sept. 16-17, 1940, Pub. Health Rep. 55: 1760 (Sept. 27) 1940.

1. Keilin, D., and Mann, T.: Carbonic Anhydrase: Purification and Nature of the Enzyme, Biochem. J. 34: 1163 (Sept.) 1940.

2. Hove, E.; Elvehjem, C. A., and Hart, E. B.: The Relation of Zinc to Carbonic Anhydrase, J. Biol. Chem. 136: 425 (Nov.) 1940.

gators were unable, however, to observe any significant decrease in the concentration of this enzyme in the blood of rats which had been reared on diets deficient in zinc. The dietary requirements for zinc are undoubtedly small, and the basal rations used, although carefully purified, were not entirely devoid of zinc. Previously it had been shown that animals reared on diets carefully freed from nearly all traces of zinc do not grow normally, have a lower zinc content of the body and have poor digestive ability associated with a decrease in the concentrations of pancreatic trypsin and amylase and of intestinal phosphatase. Thus zinc may function in a number of ways in the body. These observations afford an explanation of the indispensable nature of this element in the diet. While there would seem to be little likelihood of a lack of this essential substance in the diet of human beings, the present contributions to a knowledge of the physiology of zinc offer one more illustration of the dependence of man on the "little things" in foods.

Current Comment

FATIGUE

The development of fatigue involves changes in many elements of the neuromuscular apparatus. The role of the central nervous system in muscular fatigue is significant, especially in persons engaged in static work. Simonson and Enzer¹ have recently utilized the fusion frequency technic for the quantitative measurement of fatigue of the nervous system. Subjects are placed before a light, in front of which is a rotating shutter giving rise to flickers of light. The fusion frequency of flicker is stated to be the rate of the light flashes which is just necessary to give to the subject the effect of continuous illumination. Nineteen subjects were tested fifty-three times for their fusion frequency at the beginning and end of the day's work. At the end of the day the ability to discriminate flicker was lessened. While the number of experiments was relatively small, the results were uniform. Such factors as a cold or insufficient sleep appeared to be equivalent to fatigue from work, according to the test for fusion frequency. In addition, Simonson, Kearns and Enzer² reported that the improved sense of well-being of eunuchs and castrate men following androgen therapy was reflected in the increased fusion frequency of flicker. This apparently indicates that the resistance of the central nervous system to fatigue in these patients was increased. This experimental work is promising with regard to the possibility of evaluating the effect of stimulants or of various agents used to relieve tiredness and for measuring the efficiency of workers under various conditions. The possibility of utilizing such experiments in connection with preparations for defense makes this contribution most timely.

1. Simonson, E., and Enzer, N.: Measurement of Fusion Frequency of Flicker as a Test for Fatigue of the Central Nervous System, *J. Indust. Hyg. & Toxicol.*, February 1941.
2. Simonson, E.; Kearns, W. M., and Enzer, N.: Effect of Oral Administration of Methyltestosterone on Fatigue in Eunuchoids and Castrates, *Endocrinology* 28: 506 (March) 1941.

SEXUAL CURIOSITY OF CHILDREN

In a recent examination of the degree and nature of sexual curiosity of small children, Conn¹ pointed out that there is no such thing as not giving sexual instruction. Parents, he says, have worried too much about giving children the proper answers and not enough about becoming the proper persons. His report is based on a statistical evaluation of sexual questions contributed by 200 children representing different social strata. The actual questions quoted reveal the completely normal growth of sexual curiosity of children paralleling that which they exhibit for other aspects of the world around them. Not all parents can hope to attempt the disassociated objectively scientific attitude of the trained physician or conquer embarrassment, apprehension and inarticulateness, nor is such an attitude necessary for them. However, Conn's experience indicates that much parental enlightenment would come from taking the time to ask a child "Why do you want to know that?" or "What is your opinion about that?" The degree of sexual interest and the level of understanding at the particular age of the child would be much better appreciated, he believes, and questions better answered by this type of parental investigation. Only the child himself can give information regarding what he actually wants to know. The child is not as fragile a creature as some seem to believe, and collections of words count for much less than training for effective living.

PREVENTION OF CANCER IN PHYSICIANS

Almost one out of every ten deaths among physicians is due to cancer, according to tables prepared from a list of the deaths among physicians in the United States and Canada from 1935 to 1939 inclusive:

	Deaths from All Causes	Deaths from Cancer	Percentage of All Deaths Attributed to Cancer
1939	3,879	357	9.2
1938	3,768	334	8.9
1937	3,398	311	9.2
1936	3,581	306	8.5
1935	3,491	282	8.1

Since notoriously many physicians do not follow their own advice in having personal periodic physical examinations, many of these deaths from cancer might have been prevented by early diagnosis and treatment. In accordance with the belief that the periodic physical examinations of organized groups of apparently healthy persons may prove helpful in detecting early curable cancer, the American Society for the Control of Cancer proposes such a program for physicians through the local county medical societies which would make possible a complete physical examination once a year by qualified experts in the state. Such specialists, the society believes, could be selected by state cancer committees. One month during the year could be set aside for the examinations. A supplementary advantage would be that physicians would be practicing what they preach. As a result, a powerful influence would be exerted on furthering the educational program of prevention of cancer by periodic examination.

1. Conn, J. H.: Sexual Curiosity of Children, *Am. J. Dis. Child.* 60: 1110 (Nov.) 1940.

MEDICAL PREPAREDNESS

In this section of The Journal each week will appear official notices by the Committee on Medical Preparedness of the American Medical Association, announcements by the Surgeon Generals of the Army, Navy and Public Health Service, and other governmental agencies dealing with medical preparedness, and such other information and announcements as will be useful to the medical profession.

THE PREHABILITATION OF REGISTRANTS—A PLAN FOR RENDERING REGISTRANTS FIT FOR EXAMINATION AND SERVICE

MEDICAL ADVISORY COUNCIL OF SELECTIVE SERVICE OFFERS HERE A SIMPLE PLAN WHEREBY REGISTRANTS THEMSELVES MAY INSURE THEIR OWN FITNESS AND THEREBY QUALIFY THEMSELVES FOR MILITARY SERVICE

We are now in the midst of a national emergency. War threatens us constantly. For purposes of defense, an army is in the making. The Selective Service system has been charged with the procurement of men for this army. The need is great—some 16,500,000 men between the ages of 21 and 36 years have been registered. As their order numbers are reached, such men must appear before their local boards for examination and classification; that is, for selection, deferment or rejection. In the event that the registrant is considered suitable by the local civilian boards, he is sent up to the Army Induction Station and taken into the ranks to become a soldier, provided he is acceptable and satisfies the physical, mental and moral requirements of the Army.

Only men who can meet high standards are acceptable to the Army. Only those are selected who are judged capable of standing up under a year's strenuous military training, subsequently serving efficiently for ten years in the Reserve Corps of the Army. Of such men, the Army will require 800,000 this year, and 900,000 in each of the succeeding four years. These men should be of the type that can not only serve best the needs of the country as soldiers in the present emergency, but, of the kind who may actually be benefited by military training and contacts; and who may exercise constructive patriotic leadership, such as will inspire national confidence.

From the foregoing it is evident that the country is attempting to select as soldiers only the very cream of its young manhood. Each and every individual is "hand-picked," critically inspected and carefully tested before he is admitted to the Army. Only the fit are selected as soldiers. It is obvious, therefore, under these conditions, that selection should be regarded as a stamp of efficiency, a signal honor and a distinct privilege.

To date the number of deferments and rejections has been large, so great indeed that considerable concern is evident in Selective Service, in the Army and in the country as a whole. It is estimated that less than 15 per cent of the 16,500,000 registrants are being classed as available for general military service. This situation obviously calls for analysis and for the adoption of remedial measures.

It is estimated that approximately 5,000,000 have been classified and that more than 600,000 have been physically examined. Selective Service local boards at the present time are classing 20 per cent of those physi-

cally examined in class IV-F, as being totally disqualified for military service, 12 per cent in class I-B, as being fit for limited military service only, and 68 per cent in class I-A, as being qualified for general military service. Of the 68 per cent classed as being qualified for general military service and sent to the Army Induction Station, about 13 per cent are being rejected because of physical, mental, moral, administrative and other reasons. This means that about 60 per cent of all registrants physically examined by the local boards are accepted into the Army.

The situation is at present a matter of national concern. Many questions are being asked and various solutions of the problem offered. The crucial questions are these: Why is so large a percentage of the youth of the country being rejected? Are these men really unfit physically or mentally? What is the nature of the unfitness? What can be done to remedy the situation?

A PLAN FOR PREHABILITATION

Criticism has been abundant and bitter and is on the increase. It has fallen on Selective Service and especially on the induction boards and on the whole system of medical examinations as now in operation. Whether the criticism is justified or not is aside from the question. Obviously, some remedies are needed and something must be done to diminish the number of rejections, something to rehabilitate registrants suffering from remediable defects and, in addition, something to improve the physical condition of the youth and of the people of the country as a whole.

With this in view, the Medical Advisory Council to Selective Service offers this plan for prehabilitation of registrants. The project plans to prehabilitate registrants and to have them recognize and remove their remediable defects prior to presenting themselves to their local board of Selective Service or the induction board of the Army. The plan is simple, easily understood, can be readily carried out, and should result in a marked diminution in the percentage of rejections and a proportionate increase in the number of men inducted into the Army of those physically examined.

The plan provides that (1) registrants familiarize themselves with the physical standards required, (2) registrants apply to their local physicians and dentists if they fall short of the stipulated standards, (3) family physicians and dentists correct defects if they are

remediable, and (4) registrants carry certificates of prehabilitation to local and induction boards at the time they present themselves for examination.

The purposes of this plan are (1) to afford the registrant participation in his own prehabilitation, (2) to select more suitable men and increase the number of inductions, (3) to improve national morale by decreasing the number of rejections, (4) to cultivate in the registrants the spirit of self reliance, initiative and patriotism, and (5) to effect prehabilitation through maintaining the normal relationship of the patient to his family doctor and dentist.

The mechanism for effectively carrying out the plan is now largely set up and available. The sole additional requisites are (1) an appropriate committee in each state representing all the participants, and (2) sufficient funds to support the educational program involved. Since, according to the plan, it will function through the medical and dental professions of the country, the support of these two professions is definitely assured.

The program of education involves the dissemination of information to the 16,500,000 registrants concerned and to all the members of the medical and dental professions. This can be done by preparing and distributing special pamphlets, epitomizing the physical requirements, and publicizing all pertinent information by the press (lay and professional), by the radio, by the pulpit, and by means of moving pictures. This program will need the support of educational, health, military and religious organizations throughout the entire country. The approach to prehabilitation must be made on a national basis.

So far as the registrant is concerned, he need only familiarize himself with the medical and dental requirements and present himself for advice and treatment to his local doctor or dentist, in the event that he feels that he falls short of the designated requirements. The family doctor, being familiar with the registrant's family background, his past illnesses and his personal attributes, is the man *par excellence* to determine the nature and the significance of the defects and to advise best as to what, if anything, should be done.

Likewise the family doctor and dentist are in the best position to remedy the existing defects, if they are readily remediable. If, however, of a more serious nature, the doctor—being thoroughly familiar with the registrant's physical, mental, moral and financial status, and also with the professional personnel and with the hospital and institutional facilities of the locale—can best direct the registrant to the proper medical service, be it a free or pay, medical or dental clinic. In other words, the family doctor and dentist can remedy existing defects themselves, if easy of remedy, or can direct the registrant to the best local source for the particular professional service to be found in the immediate locality.

Presentation of a certificate of prehabilitation by the registrant to the local and induction boards will indicate his desire to serve his country in its time of need. After this plan has been put into effect, those who appear before these various boards and are found suffering from remedial defects will reveal thereby their personal failure to do their part in the national preparedness program. The possession of a certificate of prehabilitation on the other hand will tend to indicate character and the possession of desirable qualities—intelligence, forethought, initiative, fitness, and a desire to serve—all of which must go into the making of a good soldier. Such a certificate will connote *esprit de corps*, morale, and the will to succeed. Above all else, an Army needs morale, that intangible something which leads to ultimate achievement—such morale as has always characterized the armies of the United States.

It is hoped that this plan of prehabilitation will make a deep appeal to and have the support of the registrants themselves, their families and the nation. It should serve to diminish the number of rejections, with all the attendant humiliation and inconvenience involved. It should give him a plus instead of a negative mark. It should stamp many registrants with the mark of success instead of with the sign of failure. Above all, it should bring into the Army more and better soldiers: men who have helped to prepare themselves and are eager and willing to defend their homes, their country, and democracy.

SENIOR MEDICAL STUDENTS TO BE ENROLLED IN RESERVE CORPS

All senior medical students graduating from fully accredited medical schools in the United States this spring will be afforded the opportunity of being appointed first lieutenants in the Medical Corps Reserve of the Army. The students who did not pursue formal instruction in the Reserve Officers' Training Corps will be eligible for appointment in the Medical Corps Reserve on a par with those students who did have the advantage of such instruction.

These appointments will be made by the War Department on the recommendation of the dean of each approved medical school and on his certification that the applicant will be granted the degree of doctor of medicine on a specified date. At those schools which require a hospital internship for such degree, appointment will be made on certified evidence of the prospective successful completion of the prescribed four year course of medical instruction. Commissions and letters of appointment will be delivered on graduation. The newly commissioned Medical Reserve officer should then present his letter of appointment to his local Selective Service board for reclassification.

No Medical Reserve officer is considered eligible for extended active duty until he shall have completed at least one year of postgraduate hospital internship. Therefore, members of this year's graduating class who are appointed in the Medical Corps Reserve, either through medical units of the R. O. T. C. or under the aforementioned procedure, will not be available for active duty until July 1942. Deferment of such duty beyond that time will depend on the current requirement for medical officers.

In view of the anticipated annual demand for approximately four thousand Reserve medical officers to replace those who have completed twelve months training and service, it is doubtful that such deferments will be possible.

The War Department approved appointment of senior medical students on February 18, and appropriate instructions were directed to the commanding general of each corps area. The deans of the several approved medical schools will receive complete instructions, together with appropriate application blanks, in the near future from the commanding general of the corps area in which the institution is located.

ARMY RESERVE OFFICERS ORDERED TO ACTIVE DUTY

SECOND CORPS AREA

The following medical corps reserve officers have been ordered to extended active duty by the Commanding General of the Second Corps Area, which comprises the states of New York, New Jersey and Delaware:

BAER, Irving, 1st Lieut., Bayonne, N. J., Fort Tilden, N. Y.
DICKINSON, Meredith M., 1st Lieut., New York, Fort Bragg, N. C.
DOUST, Alfred W., 1st Lieut., Syracuse, N. Y., Pine Camp, N. Y.
HUDSON, Floyd I., 1st Lieut., Rehoboth Beach, Del., Fort Adams, R. I.
KALMAN, Manuel, 1st Lieut., New York, Fort Monmouth, N. J.
KUMOW, Nicholas I., 1st Lieut., Johnson City, N. Y., Pine Camp, N. Y.
LACEY, Warren W., 1st Lieut., Brooklyn, Fort Monmouth, N. J.
LANDES, Alexander V., 1st Lieut., New York, Fort Hamilton, N. Y.
LEIKIND, Elias R., 1st Lieut., Brooklyn, Fort Monmouth, N. J.

SIXTH CORPS AREA

The following additional medical reserve corps officers have been ordered to extended active duty by the Commanding General, Sixth Corps Area, which comprises the states of Wisconsin, Illinois and Michigan:

BERLIEN, Ivan C., 1st Lieut., Detroit, U. S. Army Induction Station, Detroit.
BERRY, Leonidas H., 1st Lieut., Chicago, Station Hospital, Camp Livingston, La.
BURACK, Samuel, 1st Lieut., Kankakee, Ill., U. S. Army Induction Station, Chicago.
CAMPBELL, Everett W., 1st Lieut., Chicago, Station Hospital, Camp Livingston, La.
CRESS, Henry N., 1st Lieut., Chicago, Station Hospital, Camp Livingston, La.
DEURLOO, Henry W., 1st Lieut., Romeo, Mich., Station Hospital, Fort Sam Houston, Texas.
HENDERSON, Allison B., 1st Lieut., Detroit, Station Hospital, Fort Bragg, N. C.
HOWARD, Wayne Cox, 1st Lieut., Chicago, Station Hospital, Fort Bragg, N. C.
JEFFERSON, Ronald N., 1st Lieut., Chicago, Station Hospital, Camp Livingston, La.
JOSSELYN, Livingston E., 1st Lieut., Highland Park, Ill., Station Hospital, Fort Sheridan, Ill.

SEVENTH CORPS AREA

The following medical reserve corps officers have been ordered to extended active duty by the Commanding General, Seventh Corps Area, which comprises the states of North Dakota, South Dakota, Minnesota, Nebraska, Iowa, Kansas, Missouri, Arkansas and Wyoming:

ANDERSON, Robert Caroden, 1st Lieut., Topeka, Kan., Induction Station, Fort Des Moines, Iowa.
BATTERTON, Robert Van, Captain, Rawlins, Wyo., Station Complement, Fort Riley, Kan.
BENNETT, Byron Alexander, Major, Little Rock, Ark., 43d Engineers, Camp J. T. Robinson, Ark.
BENNETT, Geoffrey Watts, 1st Lieut., Oskaloosa, Iowa, Induction Station, Fort Des Moines, Iowa.
BERMAN, William, 1st Lieut., St. Louis, Station Complement, Fort Des Moines, Iowa.
CLINE, Harold Hadley, 1st Lieut., Piedmont, Mo., Station Hospital, Camp J. T. Robinson, Ark.
CLINTON, Lloyd Brandon, Captain, Carthage, Mo., Induction Station, Fort Leavenworth, Kan.
COEN, Robert Archibald, 1st Lieut., Ingleside, Neb., Induction Station, Fort Omaha, Neb.
COUGHLAN, Charles Harold, Captain, Fort Dodge, Iowa, Induction Station, Jefferson Barracks, Mo.
DAY, Romney Naxwell, 1st Lieut., St. Joseph, Mo., Station Complement, Camp J. T. Robinson, Ark.
DECKER, Rudolph Frederick, Captain, Byron, Neb., Induction Station, Fort Leavenworth, Kan.
DEWEY, Charles Homer, Captain, Wellington, Kan., 43d Engineers, Camp J. T. Robinson, Ark.
ERICKSON, Clifford Orvis, 1st Lieut., Rochester, Minn., Induction Station, Fort Snelling, Minn.
FLICKINGER, Roger Richard, 1st Lieut., Mason City, Iowa, Station Hospital, Jefferson Barracks, Mo.
GARDNER, Harold Oscar, 1st Lieut., Waterloo, Iowa, Induction Station, Jefferson Barracks, Mo.
GROSSMAN, Marvin, 1st Lieut., Salem, Mo., 43d Engineers, Camp J. T. Robinson, Ark.
HALL, Frederic Wilhelm, 1st Lieut., Winfield, Kan., Induction Station, Fort Des Moines, Iowa.
HAWKINSON, Raymond Paul, Captain, Robbinsdale, Minn., Induction Station, Fort Leavenworth, Kan.
HERMAN, Morris, 1st Lieut., St. Louis, 35th Division, Camp J. T. Robinson, Ark.
HUBER, Melvin Joseph, Captain, St. Louis, Induction Station, Jefferson Barracks, Mo.

MANSKER, Joseph S., 1st Lieut., New York, Pine Camp, N. Y.
PREEFER, Raymond R., 1st Lieut., Brooklyn, Fort Jackson, S. C.
RICCIARDELLI, Emanuel F., 1st Lieut., Jersey City, N. J., Carlisle Barracks, Pa.
ROSENZWEIG, Henry, 1st Lieut., Brooklyn, Induction Station, Albany, N. Y.
SCHWARTZ, Albert M., 1st Lieut., New York, Fort Benning, Ga.
SERLIN, Nathan J., 1st Lieut., Brooklyn, Fort Benning, Ga.
SHULACK, Norman R., 1st Lieut., Brooklyn, Fort Benning, Ga.
SMOLEV, Heyman, Captain, Buffalo, Fort Benning, Ga.
SOBIN, Julius, Major, Newark, N. J., Fort Tilden, N. Y.
STRAHAN, Edward B., 1st Lieut., Buffalo, Pine Camp, N. Y.
THUMIN, Mark, 1st Lieut., Long Beach, L. I., N. Y., Fort Jackson, S. C.
WOHL, Charles S., 1st Lieut., Brooklyn, Fort Benning, Ga.

KINZER, Richard E., 1st Lieut., Chicago, U. S. Army Induction Station, Chicago.
KLIGERMAN, Sidney, 1st Lieut., Chicago, Station Hospital, Fort Sheridan, Ill.
MATTHEWS, Henry B., 1st Lieut., Chicago, Station Hospital, Camp Livingston, La.
MILLER, Charles H., Jr., Captain, Vienna, Ill., Station Hospital, Fort Sam Houston, Texas.
MILLER, Herbert P., Lieut. Col., Rock Island, Ill., Station Hospital, Fort Sheridan, Ill.
PEARSON, Emmet F., Captain, Springfield, Ill., Station Hospital, Fort Sheridan, Ill.
ROBINSON, Harold A., 1st Lieut., Detroit, Station Hospital, Scott Field, Ill.
ROSENBLUM, Alfred H., 1st Lieut., Chicago, Station Hospital, Fort Custer, Mich.
SALBERG, Arthur K., 1st Lieut., Chicago, U. S. Army Induction Station, Chicago.
THOMAS, Alfred E., Jr., 1st Lieut., Detroit, Station Hospital, Fort Bragg, N. C.
WAFFLE, Robert L., 1st Lieut., Fond Du Lac, Wis., Station Hospital, Fort Sheridan, Ill.
WASHINGTON, John C., 1st Lieut., Evanston, Ill., Station Hospital, Fort Bragg, N. C.
WHITE, Noland W., 1st Lieut., Centralia, Ill., Station Hospital, Scott Field, Ill.
ZOLT, Nathan, 1st Lieut., Chicago, Station Hospital, Fort Sheridan, Ill.

HYATT, Charles Nelson, Jr., 1st Lieut., Humeston, Iowa, 6th Division, Fort Francis E. Warren, Wyo.
JENKINS, Paul Alexander, 1st Lieut., Lebanon, Mo., 41st Division, Camp Murray, Wash.
KURTH, Clarence Joseph, 1st Lieut., Council Bluffs, Iowa, Station Hospital, Fort Leonard Wood, Mo.
LISTER, Kenneth Evan, 1st Lieut., Chariton, Iowa, Induction Station, Fort Snelling, Minn.
LOFTIS, William Osler, 1st Lieut., Pocatontas, Ark., Induction Station, Camp J. T. Robinson, Ark.
LOWRY, Charles Frederick, 1st Lieut., Kansas City, Mo., Station Complement, Fort Leonard Wood, Mo.
MAYNARD, Ross Ewing, 1st Lieut., Pine Bluff, Ark., Induction Station, Fort Omaha, Neb.
MCLELLAN, Allan, Major, Casper, Wyo., Station Complement, Fort Francis E. Warren, Wyo.
O'DOWD, James Austin, Captain, St. Louis, Station Hospital, Fort Riley, Kan.
PATTON, Doyle LeRoy, 1st Lieut., El Dorado, Ark., 7th Division, Fort Ord, Calif.
PEEK, Levin Henderson, 1st Lieut., Lake City, Iowa, Induction Station, Jefferson Barracks, Mo.
POST, Cyril Andrew, 1st Lieut., St. Louis, 43d Engineers, Camp J. T. Robinson, Ark.
RICH, Edward Wallace Lee, 1st Lieut., Grand Island, Neb., Station Hospital, Fort Snelling, Minn.
ST. JOHN, Dewey, Captain, St. Louis, Induction Station, Fort Des Moines, Iowa.
SICELUFF, Joseph Grice, 1st Lieut., Springfield, Mo., Station Hospital, Fort Leonard Wood, Mo.
STEFFENS, Lincoln Felch, Captain, Dubuque, Iowa, Induction Station, Fort Snelling, Minn.
STEFFEY, Fred Lee, 1st Lieut., Keokuk, Iowa, Induction Station, Fort Snelling, Minn.
STOTTS, Charles Stephen, 1st Lieut., Fredonia, Kan., Station Complement, Camp J. T. Robinson, Ark.
SUTTON, Bruce Ralph, 1st Lieut., Minden, Neb., 48th Surgical Hospital, Fort Francis E. Warren, Wyo.
VAN BESIEEN, George Joseph, 1st Lieut., Decorah, Iowa, Induction Station, Fort Omaha, Neb.
VINJE, Ralph X., 1st Lieut., Beulah, N. D., Station Hospital, Fort Riley, Kan.
VIRANT, John Aloysius, 1st Lieut., St. Louis, Station Hospital, Jefferson Barracks, Mo.

Orders Revoked

DOUGLAS, Thomas Harrelson, Jr., 1st Lieut., Osceola, Mo., Fort Knox, Ky.
MILSTER, Clyde Rogers, 1st Lieut., St. Louis, Fort Leonard Wood, Mo.

TRAINING AREA FOR PUBLIC HEALTH PERSONNEL

The public health facilities around military and industrial plants in Maryland will become a training area for United States Public Health Service personnel, Surgeon General Parran has announced.

Local health organizations in certain Maryland counties will be supplemented with physicians, sanitation engineers and public health nurses from the Public Health Service. Laboratory equipment, drugs, biologic products, office supplies, clerks, stenographers, autos and trucks also will be provided. Dr. L. B. Byington of the U. S. Public Health Service, who has been appointed deputy state health officer, will serve as liaison agent between the Maryland State Health Department and the federal health service. Numerous other states which have defense areas will receive public health reinforcements. These provisions are part of an augmented public health program authorized by Congress in connection with national defense.

Linked with the augmented Maryland defense health program is a training course for new personnel of the Public Health Service beginning April 7 at the National Institute of Health, Bethesda, Md. Senior Surg. Mark V. Ziegler has been assigned director of this orientation course. The Surgeon General has appointed the following advisory council to assist in guiding the course:

Dr. Milton J. Rosenau, University of North Carolina.
Dr. Harry S. Mustard, Columbia University.
Dr. John Sundwall, University of Michigan.
Dr. W. L. Leathers, Vanderbilt University.
Dr. Gaylord Anderson, University of Minnesota.
Dr. Cecil K. Drinker, Harvard University.
Abel Wolman, Dr. Eng., Johns Hopkins University.
Ira V. Hiseock, C.P.H., Yale University.
Lieut. Col. Arthur P. Hitchens, University of Pennsylvania.
Miss Katharine Tucker, University of Pennsylvania.

Physicians, engineers, nurses and laboratory technicians selected from civil service lists will be given intensive six weeks courses in public health administration, communicable disease control, local public health problems, laboratory technics, food and milk sanitation, industrial hygiene and venereal disease control. The first four weeks will be devoted to instruction at the institute. The final two weeks will be spent in the field. The Maryland public health staff will assist in this part of the instruction. When the six weeks course is completed, trainees will serve throughout the nation with state and local health departments hard pressed by problems created by industrial and military establishments.

Successive six weeks courses will be given at the National Institute of Health until the personnel provided for under the emergency health and sanitation program have been recruited and trained.

HEALTH OF TRAINEES BETTER THAN IN 1917

Analysis of nine thousand, seven hundred and fourteen rejection reports from about one thousand induction boards throughout the nine corps areas shows that, although three times as many men have been turned down for defective teeth in the current army induction as in that of 1917, the health of the average trainee is better in most other categories.

Rejections because of defects of the lungs, heart, muscles, bones and feet showed the largest decreases. Statistics on a group of 52,918 rejections in 1917 showed that 10.9 per cent of those were due to ailments of the lungs, compared with 3.8 per cent of the 1941 group. Heart defects accounted for 13.7 per cent of the 1917 rejections, 6.5 of those in 1941. "Musculo-skeletal" defects amounted to 10.3 per cent of the 1917 group and only 4.4 per cent in the sample just studied. Defects of the feet were nearly twice as frequent in the 1917 induction as in 1941, 6.4 per cent as compared with 3.4.

Rejections for ear defects nearly doubled, as shown by a percentage of 9 for 1941 as compared with 4.6 in the World War recruits. There was a slight increase in venereal disease, but this was attributed to better methods of testing. Rejections for miscellaneous ailments also increased.

The report analyzed the rejections by geographic areas. Ear defects exceeded the average in the Second, Seventh and Ninth corps area. Lung ailments were higher in the Second and

Third and low in the Fourth corps area. Rejections for heart trouble were higher in the Second and Seventh corps areas. The number of hernias was higher in the Fifth, Sixth and Seventh corps areas. Venereal causes were high in the Fourth and Eighth corps areas. A low percentage of rejections in the Fourth Corps Area was attributed to mental and nervous conditions, while one sixth of the rejections in the Eighth Corps Area were for this cause. Foot defects were low in all areas except the Ninth.

TEAMS OF PSYCHIATRIC ADVISERS

The dissemination by psychiatric advisers of information to all physicians associated with the Selective Service System is expected to insure the wisest selection of men for the Army. Col. Leonard G. Rowntree, chief of the medical division, Selective Service System, speaking before the Psychiatric Institute in New York, pointed out that teams of psychiatrists are working throughout the country to acquaint physicians interested in the recruitment of military manpower with the essential mental requirements of the armed forces.

The record of the first World War mobilization shows "innumerable broken men and shattered lives." In view of this experience, Colonel Rowntree said, the Selective Service System had initiated a program designed to insure the induction of soldiers of the highest mental qualifications.

The program includes the use of teams of psychiatric advisers to inform Selective Service local board physicians on the best methods of eliminating the unfit. Colonel Rowntree said: "It was decided to send out teams of specialists to spread the necessary information throughout the country. These teams have traveled to various centers to meet the local psychiatrists and doctors of the local and induction boards for the purpose of disseminating vital information bearing on the selection of men for the Army. It is hoped that the whole profession of medicine, and psychiatrists in particular, will bend additional effort in every locality to the wisest selection of those men for the Army who can serve to best advantage to themselves, their families and their country."

HOSPITAL STAFF CONTRIBUTES SHARE OF INCOME TO MEMBERS ON ACTIVE MILITARY DUTY

Members of the staff of Mount Sinai Hospital, New York, have developed a plan to aid members who have been called into active military service. Under this plan all members of the staff remaining in civilian practice will contribute a percentage of their net income from practice to a common fund to be used to help the families of members called to military duty. Payments from this common fund will be paid monthly without regard to military rank to the absent member or to his family or designated agent and will be prorated on the basis of the number of years since the doctor's graduation from medical school. The payments will be continued for six months after honorable discharge, and in the event of death or total disability while in military service payments will be continued for two years after the death or the onset of total disability. Payments will begin May 1 with contributions into the common fund of a percentage of the net medical income for 1940, payable in monthly instalments, thus permitting the accumulation of a reserve in excess of the immediate requirements. The fund will be administered by three trustees of the hospital appointed by the president of the hospital, who will be assisted by the president of the medical board and the chairman of the Association of the Junior Medical Staff. The operating costs of administering the fund will be defrayed by trustees of the hospital so that all contributions will be used for the benefit of the participating physicians. To help the families of those in military service further, the hospital staff has agreed that the members on active military duty will receive a percentage of the fees paid by their patients in their absence to other members of the medical staff of the hospital, and these payments will continue for two years after the death or total disability of a staff member. The first member of the attending staff of Mount Sinai Hospital to be called into active military service is Dr. Edgar M. Bick, associate orthopedist.

ORGANIZATION SECTION

REPORTS OF OFFICERS

NOTE.—At the 1925 session of the Association, the House of Delegates suggested that all reports of officers, committees, etc., and resolutions to be brought before the House, if available, be published in advance of the session so as to permit careful consideration and discussion.—Ed.

REPORT OF THE SECRETARY

To the Members of the House of Delegates of the American Medical Association:

The following annual report of the Secretary is respectfully submitted:

MEMBERSHIP

On March 1, 1940 the official membership list of the Association carried the names of 115,381 members. There were 116,266 members recorded on April 1, 1940 and on April 1, 1941 the number of enrolled members was 118,441, the largest number of members that has ever been reported to the House of Delegates.

An accompanying table shows, with respect to each state, the number of counties, the number of component county medical societies, the number of counties in which no societies are now organized, the number of physicians as shown by the Sixteenth Edition of the American Medical Directory, the number of members as reported by each constituent state and territorial medical association on April 1, 1940 and on April 1, 1941 and the number of Fellows in each state and territory.

During the year 1940 the deaths of 1,818 members were recorded.

FELLOWSHIP

On March 1, 1940, 71,168 Fellows were enrolled on the Fellowship roster as reported to the House of Delegates at the New York session, and on April 1, 1940 there were 71,350 Fellows. On April 1, 1941 the Fellowship roster carried 72,504 names, representing an increase over the same date in the previous year of 1,154. This is the largest number of Fellows ever recorded. During the year the deaths of 862 Fellows were reported to the Secretary's office.

ANNUAL CONFERENCE OF SECRETARIES OF CONSTITUENT STATE MEDICAL ASSOCIATIONS

The regular Annual Conference of Secretaries of Constituent State Medical Associations was not held in 1940 for the reason that it was necessary to have a conference of the state chairmen of the Committee on Medical Preparedness. At this conference all the states, with one exception, were represented by the duly appointed state chairmen or by alternates, and a number of secretaries and other officers of constituent state medical associations were in attendance.

FIELD WORK

In response to invitations received from constituent associations and component county or district societies and from other organizations endorsed by these associations or societies, the President, the President-Elect, members of various official bodies of the Association and members of its administrative personnel have appeared before a large number of audiences in all parts of the United States for the discussion of the work of the Association and other matters of important interest to all physicians. Officers and members of official bodies and members of the administrative personnel have also appeared before a large number of lay audiences. The number of such invitations received has increased to such an extent that it is practically impossible to provide speakers for all occasions. It seems to be apparent

Organization of Constituent State Medical Associations, April 1, 1941

	Number of Counties in State	Number of Component Societies in State	Organization of Constituent State Associations						Number of Fellows in State
			Number of Counties in State Not Organized		Number of Physicians in State	Number of Members of State Associations			
			1940	1941	16th Ed. A. M. Directory	1940	1941		
Alabama.....	67	67	..	..	2,075	1,591	1,576	610
Arizona.....	14	13	1	1	594	369	374	271	
Arkansas.....	75	60	11	11	1,829	1,053	1,060	454	
California.....	58	40	8	8	11,909	6,542	6,743	4,517	
Colorado.....	63	27	1	1	1,964	1,165	1,162	744	
Connecticut.....	8	8	..	..	2,598	1,701	1,753	1,136
Delaware.....	3	3	..	..	339	227	230	143
Dist. of Columbia..	..	..	..	..	2,243	883	917	676
Florida.....	67	33	17	16	2,276	1,331	1,391	758	
Georgia.....	159	96	38	37	2,825	1,964	1,957	736	
Idaho.....	44	10	..	..	423	289	316	167
Illinois.....	102	92	6	6	12,188	7,873	7,991	4,839	
Indiana.....	92	83	1	1	4,132	3,237	3,249	1,872	
Iowa.....	99	97	..	..	3,084	2,429	2,464	1,399
Kansas.....	105	70	18	18	2,070	1,525	1,564	952	
Kentucky.....	120	115	3	3	2,761	1,893	1,938	835	
Louisiana.....	64	42	17	15	2,464	1,531	1,551	768	
Maine.....	16	15	1	..	992	729	732	393	
Maryland.....	23	23	..	..	2,988	1,460	1,528	960
Massachusetts.....	14	18	..	..	7,889	5,288	5,367	3,163
Michigan.....	83	54	..	..	6,362	4,262	4,246	2,477
Minnesota.....	87	34	1	1	3,527	2,795	2,794	1,555	
Mississippi.....	82	21	1	3	1,497	1,127	953	343	
Missouri.....	114	78	8	8	5,297	3,269	3,264	2,132	
Montana.....	56	17	21	21	537	416	415	247	
Nebraska.....	93	50	16	16	1,635	1,161	1,156	716	
Nevada.....	17	5	12	12	167	113	120	69	
New Hampshire.....	10	10	..	..	656	506	513	294
New Jersey.....	21	21	..	..	5,813	3,784	3,928	2,745
New Mexico.....	31	15	16	16	439	268	278	159	
New York.....	62	61	1	1	27,396	16,986	17,805	11,434	
North Carolina.....	100	67	24	24	2,740	1,867	1,850	882	
North Dakota.....	53	13	11	11	518	407	396	261	
Ohio.....	88	87	2	1	9,318	6,490	6,529	3,897	
Oklahoma.....	77	64	7	7	2,352	1,466	1,567	778	
Oregon.....	36	25	2	2	1,461	839	866	531	
Pennsylvania.....	67	60	6	6	13,529	9,348	9,531	6,017	
Rhode Island.....	5	6	1	1	961	500	515	341	
South Carolina.....	46	37	4	4	1,402	996	948	418	
South Dakota.....	69	12	1	1	508	325	331	186	
Tennessee.....	95	60	24	24	2,908	1,781	1,752	863	
Texas.....	254	128	11	5	6,898	4,422	4,526	2,243	
Utah.....	29	9	4	4	575	466	476	262	
Vermont.....	14	10	3	3	523	384	381	211	
Virginia.....	100	48	8	8	2,889	1,781	1,793	1,070	
Washington.....	39	25	12	12	2,200	1,515	1,537	931	
West Virginia.....	55	30	5	5	1,834	1,263	1,274	693	
Wisconsin.....	71	52	..	..	3,523	2,544	2,560	1,512
Wyoming.....	24	11	11	11	274	171	170	110	
Alaska.....	..	..	..	..	74	43	41	23
Hawaii.....	5	4	1	1	455	284	293	126	
Isth. Canal Zone....	..	..	..	..	216	117	124	24
P. I. (Provinces)....	56	26	31	30	3,445	1,130	1,251	43	
Puerto Rico.....	7	7	..	..	473	364	395	76
Foreign.....	..	..	..	..	30	.....	.....	177
	3,139	2,059	366	355	180,075	116,266	118,441	69,256	
Commissioned medical officers.....								3,248	
								72,504	

that the interest of physicians and laymen in the work of the organized medical profession in the United States is constantly increasing.

In addition to the many requests for speakers that are received from medical organizations and lay groups, there has developed

a growing demand for the participation of official representatives of the Association in conferences with representatives of other organizations and of official agencies of various kinds. An effort has been made to comply with such requests of this nature as seem to be of interest to medicine and in those instances in which it has been felt that the Association could render helpful service to the officers and members of other groups.

EXTRAORDINARY ACTIVITIES OF THE SECRETARY'S OFFICE

In addition to the usual official duties with which the Secretary of the Association has heretofore been concerned, much of his time during the past year has had to be devoted to other and unusual duties. As Secretary of the Committee on Medical Preparedness of the American Medical Association, a large amount of the Secretary's time has been engaged with the activities of that committee.

The Secretary was required to be in Washington, D. C., constantly over a period of seven weeks in attendance on the trial of the case of the *United States v. The American Medical Association et al.*, and at times it has been impossible to give prompt attention to communications received or to comply promptly with official requests. It has been a matter for keen regret that all such requests and demands could not be promptly and efficiently met, and the indulgence of those concerned is respectfully requested.

In closing this necessarily brief report to the House of Delegates, it is the desire of the Secretary to convey an expression of gratitude to all the officers of the Association, to the members of the House of Delegates, to the officers of the constituent associations and component societies and to individual Fellows and members of the Association, all of whom have been both gracious and generous in offering aid and encouragement and in extending many kindly courtesies to the office of the Secretary.

Respectfully submitted,

OLIN WEST, Secretary.

REPORT OF THE BOARD OF TRUSTEES

To the Members of the House of Delegates of the American Medical Association:

The Board of Trustees respectfully submits to the House of Delegates of the American Medical Association the following report covering many of the activities of the Association as conducted through its various councils, bureaus and departments during the past year.

The reports of the councils which are standing committees of the House of Delegates are submitted by those councils.

Meetings of the Board of Trustees were held in February, June, September and November in 1940, and meetings of the Executive Committee of the Board were held each month except during April, July, October and December. At meetings of the Executive Committee and the Board of Trustees, representatives of other organizations and groups, particularly representatives of the American Society of Clinical Pathologists, of the American Chemical Society Committee on Chemical Service to Medicine and of the American Pharmaceutical Association, have appeared for the purpose of discussing matters of mutual interest, and it is believed that these conferences have contributed to a better understanding of some important problems and have resulted in the establishment of more cordial and helpful relations between the parties concerned. Meetings of the Board of Trustees are attended by the President, the President-Elect, the Treasurer of the Association and the Speaker of the House of Delegates, and the Vice President of the Association has attended meetings of the Board when it has been possible for him to do so.

Many matters have received careful official consideration by the Board of Trustees that are not referred to in this report. In some instances such matters have been satisfactorily disposed of, while other matters that have been brought to the attention of the Board are still under consideration or have not required official action.

Dr. Austin A. Hayden

Dr. Austin Albert Hayden, Treasurer of the American Medical Association from 1922 to 1933 and, since 1933, Secretary of the Board of Trustees, died in Chicago shortly after the annual session of 1940, on July 10, of coronary thrombosis and chronic interstitial nephritis. Thus ended a distinguished career in ophthalmology, otolaryngology and medical statesmanship. In his professional life Dr. Hayden was active in the work of many medical organizations. He was a fellow of the American College of Surgeons, a member of the American Otological Society and a former president of the Chicago Laryngological and Otological Society and of the Chicago Medical Society. He was also a member of the Chicago Ophthalmological Society, the American Academy of Ophthalmology and Otolaryngology, the American Laryngological, Rhinological and Otological Society, a former president of the American Association of Railway Surgeons and a member of the Institute of Medicine and the Society of Medical History of Chicago. Dr. Hayden was devoted to his work for organized medicine. During the annual session in New York he worked many hours both day and night in his official capacities, not only on the Board of Trustees and in the House of Delegates, but also in charge of entertainment. He was known to all his friends, and particularly to his associates on the Board of Trustees, for his intense activity, his constant courtesy, his genial friendship and his leadership.

Dr. Paul Nicholas Leech

It is with great regret and with a sense of extreme loss to the Association and to the cause of scientific medicine that the Board of Trustees reports the death of Paul Nicholas Leech, Ph.D., which occurred suddenly on Jan. 14, 1941. At the time of his death, Dr. Leech was Director of the Division of Foods, Drugs and Physical Therapy, Secretary of the Council on Pharmacy and Chemistry and Director of the Chemical Laboratory. His service to the Association extended over a period of twenty-eight years. Dr. Leech was a faithful and efficient member of the administrative personnel of the American Medical Association and made perhaps as great a contribution to the development of rational therapy as has been made by any other individual. That the value of his services was most gratefully appreciated by practically all of those who knew of the nature of his work and of his great contributions to the cause he so long served was clearly shown by the receipt of a large number of messages of condolence from all parts of the United States.

Income and Expenditures

Gross income from all sources for the year ended Dec. 31, 1940 amounted to \$1,876,353.80, an increase of \$77,586.98 over that of the previous year. Total expense for the year 1940 was \$1,688,585.50, an increase of \$4,617.45 over expense incurred in 1939.

Income received from Fellowship dues and subscriptions totaled \$776,202.44 in 1940 as compared with \$751,882.02 in 1939. Receipts from the sale of advertising space amounted to \$969,581.25, representing an increase of \$60,790.67 over the preceding year. Other items of income, including tax refunds and receipts from the sale of reprints and books, amounted to \$49,998.20 in 1940.

Interest received on investments in 1940 amounted to \$80,571.91, as compared with \$84,938.91 in the previous year, or a decrease of \$4,367. This reduction emphasizes the difficulty of investing the funds of the Association profitably and safely. Bonds matured, sold or called during the year totaled \$276,959.38. Others were purchased at a cost of \$245,593.75. The face value of defaulted bonds owned by the Association on Dec. 31, 1940 is the same as a year ago, none of the defaulted issues having been sold and there having been no further defaults. The face value of defaulted bonds amounts to \$48,400 and the accumulated unpaid interest on them \$5,530.10.

The cost of paper used in the publication of THE JOURNAL in 1940 was \$230,775.35, representing an increase of approximately \$1,400 over the amount expended in the previous year.

The sum of \$3,091.61, representing a contribution of the Association toward the expense of group hospital insurance carried

for the benefit of employees, who share the premiums, was expended during the year. The group hospital insurance policies held by the Association's employees have been in force since March 5, 1940, and the reaction of the employees seems very favorable.

Expenditures incident to the operation of the various councils, bureaus and departments of the Association in 1940 amounted to \$482,510.35 as compared with \$484,052.06 in 1939 and \$458,499.27 in 1938. Although expense incurred by the Bureau of Exhibits was reduced in 1940 by the sum of \$25,531.91 as the result of the discontinuance of Association exhibits at world's fairs, this reduction was offset by expenditures on account of the work of the Committee on Medical Preparedness, which amounted to \$27,238.97.

The publication in 1940 of the QUARTERLY CUMULATIVE INDEX MEDICUS and of the special journals resulted in a net loss of \$71,091.02, more than half of which was represented by the cost of publication of the QUARTERLY CUMULATIVE INDEX MEDICUS. Three of the special journals, the AMERICAN JOURNAL OF DISEASES OF CHILDREN, the ARCHIVES OF OTOLARYNGOLOGY and the ARCHIVES OF OPHTHALMOLOGY, produced income larger than the cost of publication in 1940. HYGIEIA reduced its loss from \$7,669.85 in 1939 to \$2,132.38 in 1940.

A biennial comparison of results from the publication of the American Medical Directory indicates a loss on the Sixteenth Edition, completed on May 31, 1940, of \$8,939.26, as compared with \$8,488.90 on the Fifteenth Edition, published in 1938.

Expenditures for legal services and investigations during 1940 amounted to \$112,345.16, a sum slightly less than that expended for the same purpose in the preceding year.

The building and equipment of the Association have been well maintained. Building expense of \$37,333.56 shows a decline of \$5,337.62 from the previous year. Depreciations in plant and in equipment chargeable to Journal Operating Expense totaled \$36,785.30 in 1940 as compared with \$31,461.19 in 1939. Late in 1940, in order to effect economies in certain printing operations, the Association contracted for the immediate installation of two new two-color presses, each of which will cost approximately \$21,000.

The number of persons in the employ of the Association at the time of preparation of this report was six hundred and thirty-six. There appears to be a trend toward higher wages in the office group as well as in the organized group of employees.

Net income for the year ended Dec. 31, 1940, as shown in the report of the Auditor, amounted to \$187,768.30, including interest of \$80,571.91 from investments.

The Report of the Treasurer and the Report of the Auditor are submitted as a part of the official report of the Board of Trustees.

Summary

Gross income from all sources for the year 1940 was \$1,876,353.80. Income received from Fellowship dues and subscriptions was \$776,202.44, exceeding income from the same source in 1939 by the sum of \$24,320.42. Income from the sale of advertising space amounted to \$969,581.25, an increase over 1939 of \$60,790.67. Interest received on investments amounted to \$80,571.91, which was \$4,367 less than in 1939. Bonds matured, sold or called during the year amounted to \$276,959.38, and bonds were purchased at cost in the sum of \$245,593.75. The face value of defaulted bonds amounts to \$48,400, the same as in 1939; the accumulated unpaid interest is now \$5,530.10. The cost of paper used in the publication of The Journal was approximately \$1,500 greater in 1940 than in 1939. Expenditures on account of the various councils, bureaus and departments of the Association, including the newly established Committee on Medical Preparedness, were \$482,510.35 as compared with \$484,052.06 in 1939. Miscellaneous expenses, including fees for legal services and investigations and losses involved in sundry publications, amounted to \$194,507.82. The number of persons employed by the Association at the time of preparation of this report was six hundred and thirty-six. Net income for the year as shown in the Report of the Auditor was \$187,768.30, of which \$80,571.91 represented interest on investments.

The Journal of the American Medical Association

THE JOURNAL has continued to occupy the high place which it holds in medical journalism and is now universally recognized as a leader in its field. During the year modifications were made in the cover of the periodical and there was also some rearrangement of the contents. These changes were necessitated by exigencies relating to more efficient use of the presses. The increase in circulation made necessary some advancement in the

TABLE 1.—Approximate Count of Fellows and Subscribers on The Journal Mailing List, by States, Jan. 1, 1941; Also Gain or Loss in Each State

State	Fellows	Subscribers	Totals	Gain	Loss
Alabama.....	551	287	838	80	..
Arizona.....	235	128	363	..	2
Arkansas.....	388	179	567	..	35
California.....	4,064	2,536	6,600	..	43
Colorado.....	636	289	925	3	..
Connecticut.....	1,053	648	1,701	50	..
Delaware.....	132	88	220	13	..
District of Columbia.....	644	599	1,243	19	..
Florida.....	737	469	1,206	44	..
Georgia.....	660	459	1,119	62	..
Idaho.....	145	100	245	8	..
Illinois.....	4,411	2,822	7,233	..	6
Indiana.....	1,616	799	2,415	82	..
Iowa.....	1,224	428	1,652	..	74
Kansas.....	825	305	1,130	24	..
Kentucky.....	753	370	1,123	18	..
Louisiana.....	608	438	1,046	49	..
Maine.....	356	193	549	26	..
Maryland.....	886	691	1,577	17	..
Massachusetts.....	2,861	1,533	4,394	51	..
Michigan.....	2,203	1,416	3,619	166	..
Minnesota.....	1,364	671	2,035	10	..
Mississippi.....	284	210	494	52	..
Missouri.....	1,897	774	2,671	..	86
Montana.....	197	117	314	13	..
Nebraska.....	612	278	890	18	..
Nevada.....	62	39	101	1	..
New Hampshire.....	264	104	368	..	8
New Jersey.....	2,575	1,454	4,029	171	..
New Mexico.....	150	94	244	..	3
New York.....	10,233	5,653	15,886	593	..
North Carolina.....	795	536	1,331	52	..
North Dakota.....	206	87	293	..	6
Ohio.....	3,358	1,893	5,161	183	..
Oklahoma.....	655	286	941	..	11
Oregon.....	455	303	758	..	5
Pennsylvania.....	5,568	2,487	8,055	68	..
Rhode Island.....	317	203	520	3	..
South Carolina.....	384	243	627	51	..
South Dakota.....	181	108	289	1	..
Tennessee.....	744	444	1,188	28	..
Texas.....	1,886	1,033	2,919	144	..
Utah.....	220	109	329	19	..
Vermont.....	198	79	277	..	7
Virginia.....	976	496	1,472	115	..
Washington.....	815	438	1,253	48	..
West Virginia.....	613	307	920	34	..
Wisconsin.....	1,350	634	2,004	20	..
Wyoming.....	97	56	153	..	2
U. S. Army.....	177	177	354	3	..
U. S. Navy.....	..	310	310	55	..
U. S. Public Health Service.....	..	166	166	19	..
Alaska.....	20	28	48	2	..
Canada.....	14	661	675	..	126
Cuba.....	4	130	134	15	..
Hawaii.....	97	166	263	11	..
Mexico.....	8	146	154	28	..
Panama.....	22	46	68	6	..
Philippine Islands.....	36	200	236	..	19
Puerto Rico.....	63	72	135	15	..
Virgin Islands.....	1	5	6	1	..
Foreign.....	99	2,825	2,924	..	247
Advertisers and agents.....	..	..	514	9	..
Exchanges.....	..	..	311	..	12
Complimentaries.....	..	..	137	2	..
Total on mailing list.....			101,479	2,502	692

time of going to press. Nevertheless, the changes have resulted in what is widely accepted as a total improvement in the presentation of the material. The changes have also permitted the use of color on the cover.

A most significant development in THE JOURNAL during the past year has been the addition of a section devoted to medical preparedness. Here are published announcements coming from the Army, the Navy and the United States Public Health Service as well as orders to physicians who are taken into the service of the Army and Navy. The publication of this section of THE JOURNAL has served to produce cooperation and coordination among those interested in medical preparedness.

A special series of articles devoted to glandular physiology and therapy and to the therapy of the Cook County Hospital, and a special series of contributions from the general scientific meetings at the annual session have been exceedingly valuable in presenting modern medical technic to great numbers of physicians.

The expansion of the Association with the creation of new councils, committees and bureaus has placed a special responsibility on THE JOURNAL for the issuance of reports. Thus there are now special issues devoted to hospitals, to medical education, to licensure, to industrial health and to the proceedings of the official bodies of the Association. There are also extended reports from the Council on Pharmacy and Chemistry, the Council on Physical Therapy, the Council on Foods and Nutrition, the Committee on American Health Resorts and the Committee to Study Air Conditioning.

The European war has interfered seriously with the receipt of letters from foreign countries. THE JOURNAL continues to receive letters at fairly regular intervals from London. An occasional contribution is received from France. Letters from Vienna, Budapest, Bucharest, Moscow and Oslo have been almost entirely discontinued. An attempt is now being made to secure more frequent contributions from Buenos Aires, Rio

during recent months to utilize to greater advantage the periodicals from Japan.

The net paid weekly average circulation of THE JOURNAL in 1940 was 98,002.

The first of the accompanying tables indicates the number of Fellows and subscribers on the mailing list of THE JOURNAL in each state and territory on Jan. 1, 1941. This table also shows the number of Fellows and subscribers in other countries, the number of copies of THE JOURNAL sent to advertisers and subscription agents and the number sent as exchange or complimentary copies. Table 2 shows the number of physicians in each state as indicated by the Sixteenth Edition of the American Medical Directory, the number of physicians in each state who receive THE JOURNAL and the approximate percentage of such physicians.

Summary

The Journal has continued to occupy its recognized high place as a leader in the field of medical journalism. Changes in the composition of The Journal made during 1940 have resulted in what has been widely accepted as a total improvement.

A section devoted to medical preparedness was added to The Journal in 1940 and has been of great service in furthering cooperation and coordination among those interested in medical preparedness.

The presentation of modern medical technic by means of special series of articles devoted to various subjects has been exceedingly valuable to great numbers of physicians. Special issues of The Journal during the year have been devoted to hospitals, medical education, licensure, industrial health and reports of official bodies of the Association, and extended reports of councils and committees of the Association have been published.

The European war has interfered seriously with the receipt of foreign letters and periodicals, and an attempt is now being made to secure more frequent contributions from South American centers and to utilize to greater advantage periodicals received from Japan.

The net paid weekly average circulation of The Journal in 1940 was 98,002.

Press Relations

During 1940 there was developed among the various mediums of public information, under the supervision of the Editor of THE JOURNAL, a wider acceptance of the American Medical Association as a source of information regarding all phases of medicine than ever before in the history of the Association. In 1940 more than seventy-eight thousand newspaper stories based on articles in THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION and in HYGIEA appeared in the daily press of the United States. This total does not include feature stories and editorials in daily newspapers pertaining to information published by the Association, the number of which is constantly increasing. These newspaper stories are furnished the press through the AMERICAN MEDICAL ASSOCIATION NEWS, a weekly publication containing abstracts of articles appearing in the various periodicals of the Association. The mailing list of this publication includes three hundred and twenty-five daily newspapers, seventy-seven news services, radio stations and miscellaneous publications, forty local and state health departments, fifty-one nongovernmental health and tuberculosis associations, eighty-two county and local medical societies, eighty-seven national medical organizations, twenty-eight science writers, sixty pharmaceutical associations and manufacturing companies, forty-five industrial organizations and seventeen educational institutions. In addition, eighty-six copies are sent weekly to various constituent state and territorial medical associations, some of which receive several extra copies for distribution to the smaller newspapers in their states. All names on the mailing list of the AMERICAN MEDICAL ASSOCIATION NEWS have been placed there by request. No charge is made for the publication. Of particular importance in 1940 was the increased use of information from the Association, particularly from the AMERICAN MEDICAL ASSOCIATION NEWS, by radio stations in news broadcasts. The number of stations using information furnished by the Association is constantly increasing.

TABLE 2.—Percentage of Physicians Receiving The Journal *

State	Number Receiving Journal	Physicians in A. M. Directory	Approximate Percentage Receiving The Journal
Alabama.....	838	2,075	40
Arizona.....	363	594	61
Arkansas.....	567	1,829	31
California.....	6,600	11,909	55
Colorado.....	925	1,961	47
Connecticut.....	1,701	2,598	65
Delaware.....	220	339	65
District of Columbia.....	1,243	2,243	55
Florida.....	1,206	2,276	53
Georgia.....	1,119	2,825	40
Idaho.....	245	423	58
Illinois.....	7,233	12,188	59
Indiana.....	2,415	4,132	58
Iowa.....	1,652	3,034	54
Kansas.....	1,130	2,070	55
Kentucky.....	1,123	2,761	41
Louisiana.....	1,106	2,464	45
Maine.....	519	992	55
Maryland.....	1,577	2,938	53
Massachusetts.....	4,304	7,889	56
Michigan.....	3,610	6,362	57
Minnesota.....	2,035	3,527	58
Mississippi.....	494	1,497	33
Missouri.....	2,671	5,297	50
Montana.....	314	537	58
Nebraska.....	890	1,635	54
Nevada.....	101	167	60
New Hampshire.....	365	656	56
New Jersey.....	4,020	5,813	69
New Mexico.....	244	439	55
New York.....	15,886	27,396	58
North Carolina.....	1,331	2,740	49
North Dakota.....	293	518	57
Ohio.....	5,161	9,318	55
Oklahoma.....	911	2,352	40
Oregon.....	758	1,461	52
	8,055	18,529	60
	520	961	54
	627	1,402	45
South Dakota.....	280	508	57
Tennessee.....	1,188	2,908	41
Texas.....	2,910	6,898	42
Utah.....	329	575	57
Vermont.....	277	523	53
Virginia.....	1,472	2,889	51
Washington.....	1,353	2,200	57
West Virginia.....	920	1,834	50
Wisconsin.....	2,004	3,523	57
Wyoming.....	153	274	56

* This table gives the number of physicians (based on the Sixteenth Edition of the American Medical Directory) in the United States, the number receiving THE JOURNAL and the approximate percentage in each state. Copies to physicians in the United States Army, Navy and Public Health Service are not included.

de Janeiro and other South American centers of medical information.

The war has also interfered with the receipt of foreign periodicals, many of which have been discontinued. Practically no medical literature is received from France. The German publications come irregularly and are of an entirely different order from that which prevailed previously. Some British publications have discontinued their appearance and all others are smaller in size and in scientific content. An arrangement has been made

The efficiency of the press arrangements for the annual sessions of the Association, which are carried on under the direct supervision of the Editor of THE JOURNAL, and the increasing recognition of the importance of the Association's activities were ably demonstrated at its Ninety-First Annual Session in New York. Despite the declaration of war on Great Britain by Italy on the first morning of the session, the major daily newspapers in New York City carried a total of 274¾ inches or approximately 22,000 words regarding the Association in editions of that day. During the five days of the session, despite the space demands of news from Europe, the eight major New York City newspapers devoted a total of 1,573½ inches of space to the session, which equalled more than 125,000 words. An almost equal number of words was telegraphed by wire services or special staff writers to other newspapers throughout the country during those five days.

The number of inquiries regarding all phases of medicine received by the Association from newspapers in 1940 exceeded two thousand, as compared with approximately one thousand four hundred inquiries received in 1939. These ranged from interviews by reporters at the headquarters office to telegrams and local and long distance telephone calls.

The increasing confidence of the various mediums of public information in the Association is reflected in the number of such agencies that are depending on the Association for guidance on the medical stories used.

Other activities also have expanded, particularly with respect to articles and information furnished industrial house organs and medical supplements published by local newspapers under the sponsorship of local medical societies. The number of such newspaper supplements aided by this department increased from fifteen in 1939 to twenty-one in 1940. The department has been of increasing assistance to state and county medical societies in their press relations programs. The press facilities for such special meetings sponsored by the Association as the Annual Congress on Medical Education and Licensure and the Annual Congress on Industrial Health also are handled by this department, which also furnishes the material for the Medical News page appearing in HYGEIA each month.

In addition to the regular channels of public information established and maintained by the department, an increasing number of special releases regarding the various phases of medical preparedness which clear through the Association are being made to the press and to radio stations.

Special Journals

The special journals published by the Association have been continued with the high scientific and editorial standards established for them. The number of pages in the periodicals was increased, as shown in an accompanying table, in order to handle the volume of material accepted for publication by the editorial boards.

A special issue of the ARCHIVES OF SURGERY was published in August in honor of Dr. Dean Lewis, of the ARCHIVES OF PATHOLOGY in July in honor of Dr. S. B. Wolbach, and of the ARCHIVES OF OPHTHALMOLOGY in July in honor of Dr. Frederick H. Verhoeff. The editorial board of the ARCHIVES OF SURGERY arranged for special symposiums on peripheral vascular disease, intervertebral disks, compound fractures, preoperative and post-operative care and the esophagus, which have attracted considerable interest. These account, in part at least, for the increase of three hundred and forty-four in the number of subscribers to that periodical. The ARCHIVES OF INTERNAL MEDICINE made the largest gain in number of subscribers for the year, the result, no doubt, of the continuation of the publication of specially prepared reviews of the literature in various fields of internal medicine.

Requests are still being received for cumulated indexes of some of the special journals; thus far a sufficient number has not been received for any index to warrant its publication.

Only two changes were made in the membership of the editorial boards: Dr. John Whitehorn of St. Louis was elected to succeed Dr. H. Douglas Singer, deceased, on the editorial board of the ARCHIVES OF NEUROLOGY AND PSYCHIATRY, and Dr. David G. Cogan of Boston to succeed Dr. J. H. Waite, resigned,

on the editorial board of the ARCHIVES OF PATHOLOGY. Dr. J. Mackenzie Brown of Los Angeles was elected as an additional member of the editorial board of the ARCHIVES OF OTOLARYNGOLOGY and Dr. Tracy J. Putnam, chief editor of the ARCHIVES OF NEUROLOGY AND PSYCHIATRY.

The Board of Trustees takes pleasure in reporting to the House of Delegates that each of the eight special journals pub-

Number of Pages in Special Journals for 1940 and 1939

	1940	1939	Increase or Decrease *
Archives of Surgery.....	2,742	2,228	514
Archives of Dermatology and Syphilology...	2,374	2,180	194
Archives of Neurology and Psychiatry.....	2,630	2,478	152
Archives of Ophthalmology.....	2,666	2,238	428
Archives of Pathology.....	2,173	2,034	139
American Journal of Diseases of Children....	2,862	2,864	2*
Archives of Internal Medicine.....	2,662	2,580	82
Archives of Otolaryngology.....	2,160	2,128	32
Special numbers issued during 1940:			
Archives of Surgery—Dean Lewis Number, August			
Archives of Pathology—Wolbach Number, July			
Archives of Ophthalmology—Verhoeff Number, July			
Archives of Surgery—Special symposiums: February, March, May, June, November			

Comparison of Number of Subscribers to the Special Journals
as of Dec. 31, 1939 and Dec. 31, 1940

	1939	1940	Gain
Archives of Surgery.....	2,771	3,115	344
Archives of Neurology and Psychiatry.....	2,296	2,364	68
Archives of Internal Medicine.....	5,271	5,702	431
American Journal of Diseases of Children.....	3,715	3,828	113
Archives of Dermatology and Syphilology....	2,116	2,189	73
Archives of Otolaryngology.....	3,652	3,776	124
Archives of Pathology.....	1,584	1,629	45
Archives of Ophthalmology.....	3,598	3,753	155

lished by the Association showed an increase in circulation in 1940, varying from forty-five for the ARCHIVES OF PATHOLOGY to four hundred and thirty-one for the ARCHIVES OF INTERNAL MEDICINE. The circulation of these periodicals in 1939 and 1940 is presented in the appended table.

Summary

The special journals published by the Association have continued to follow the high scientific and editorial standards previously established.

Special issues of the Archives of Surgery, the Archives of Pathology and the Archives of Ophthalmology were published during the year, and the number of pages in these and others of the special periodicals was considerably increased. There was a gratifying increase in 1940 in the number of subscribers to each of the special journals.

War Medicine

In cooperation with the Division of Medical Sciences of the National Research Council, the American Medical Association began publication in January 1941 of a new periodical called WAR MEDICINE. Its editorial board is the Committee on Information of the National Research Council, of which Dr. Morris Fishbein is chairman. There are cooperating editorial associates from the United States Army and Navy Medical Corps and from the United States Public Health Service.

The Board of Trustees authorized publication of this periodical as a bimonthly, but there are indications that it may be desirable after the first year to make it a monthly publication.

Through WAR MEDICINE there are made available the official reports of the various committees of the Division of Medical Sciences of the National Research Council, also official circulars of the United States Army and Navy. The periodical is also reflecting the advances in the coordination of efforts for improved nutrition and has had official reports and contributions on this subject.

Its abstracts have constituted an especially useful contribution, and there are also being published a series of collective reviews on subjects of training in military medicine. The publication has had most favorable comment from leaders in British and Canadian military medical affairs. This periodical represents a notable contribution by the American Medical Association to national defense.

Library

The Library of the American Medical Association maintains a package library service, a periodical lending service and an employees' lending library, records all books received and reviewed for *THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION*, provides a general reference service, prepares and edits the index for *THE JOURNAL* and prepares material for the *QUARTERLY CUMULATIVE INDEX MEDICUS*.

In 1940, 3,052 package libraries were distributed in response to requests received from all the states and the District of Columbia. The subjects most frequently requested concerned sulfanilamide, tuberculosis, vitamins, anesthesia, mental diseases, syphilis, arthritis, hypertension, diabetes mellitus and aviation medicine. One hundred and seventeen government hospitals and agencies were supplied through the package library service.

Periodicals lent in 1940 numbered 13,265, the highest figure reported since the periodical lending service was established. The library service was used to a greater extent by physicians of Illinois, New York, Pennsylvania, Ohio and Tennessee than by those of other states. Approximately 5,500 miscellaneous reference questions were answered by the Library. Although most of the library reference work is conducted by mail, 1,048 visitors called at the Library for service during 1940.

The second edition of "Subject Headings and Cross References to the Quarterly Cumulative Index Medicus" was published in 1940. The first edition appeared in 1931. This publication was compiled primarily as a guide for the indexing staff of the *QUARTERLY CUMULATIVE INDEX MEDICUS*. Requests for copies were soon forthcoming from other libraries, and this interest prompted the publication of a second edition. While there is a limited demand for this publication, nearly one third of the total number printed was disposed of in a relatively short time. This book is used as an aid to librarians in the classification of medical periodical material for reprint collections or as a guide to the indexing of medical periodicals.

The Employees' Library makes books available to employees of the American Medical Association who pay an annual fee of 50 cents for the service. The circulation of books during the year was 5,028, and the employee subscribers numbered 122. The magazine circulation totaled 2,560.

THE EFFECTS OF WAR ON SCIENTIFIC PUBLICATIONS

The *QUARTERLY CUMULATIVE INDEX MEDICUS* was affected somewhat in 1940 by the war. The January to June 1940 issue, volume 27, contained 15,750 articles from periodicals published in various foreign languages. No count is kept of articles published in English. In volume 28, July to December 1940, there was a noticeable decrease in the number of articles included from the foreign language periodicals. Only 10,864 articles were indexed in this volume, a decrease of 4,886 articles. This situation is due primarily to the nonreceipt of many foreign periodicals, chiefly French and Italian, and to the decrease in size of foreign periodicals, due no doubt to shortage of paper. As noted in *THE JOURNAL*, Aug. 24, 1940, there was a period of several months when no journals were received from Germany. In late September, however, the receipt of German periodicals again became quite regular. During 1940, forty-six periodicals were dropped because of suspended publication, and sixty-eight periodicals were added to the "List of Periodicals Included in the Quarterly Cumulative Index Medicus." In the past year one hundred and seven exchanges were canceled, sixty-five because of war conditions and forty-two because of other circumstances, such as suspension of publication, nonreceipt and irregular receipt.

Summary

The Library of the American Medical Association maintains a package library service, a periodical lending service and an employees' lending library, records all

books received and reviewed for *The Journal*, provides a general reference service, prepares and edits the index for *The Journal* and prepares material for the *Quarterly Cumulative Index Medicus*.

In 1940, 3,052 package libraries were distributed in response to requests coming from every state, 13,265 periodicals were lent, approximately 5,500 miscellaneous reference questions were answered, 1,048 visitors to the Library requesting service were accommodated and 5,028 books were circulated from the employees' lending library. A second edition of the booklet "Subject Headings and Cross References to the Quarterly Cumulative Index Medicus," prepared in the Library, was published.

The war in Europe affected somewhat the *Quarterly Cumulative Index Medicus*, which is prepared for publication in the Library. Many foreign periodicals, chiefly French and Italian, have not been received, the size of foreign journals has been reduced and, for a period of several months during the year, no journals were received from Germany, so that there was a notable decrease in the number of articles indexed from foreign periodicals.

Hygeia

The circulation of *HYGEIA* has been maintained constantly, and from an editorial point of view this publication continues to hold the high place that it has had in recent years. Many of its articles are selected for republication in such periodicals as the *Reader's Digest*. Many hundreds of thousands of reprints have been made from the pages of *HYGEIA* in publications circulated by manufacturing, industrial, railroad and similar organizations. It is used in many schools as a reference work and as a guide for students.

The series of picture presentations particularly related to national defense have attracted nationwide attention and have also been utilized by the military service. Special attention has been paid to nutrition, and a section of the periodical is regularly devoted to reports of the Council on Foods and Nutrition of the American Medical Association. The correspondence with readers of *HYGEIA* who are in search of suggestions for the prevention of disease and of a guide to the securing of proper treatment is a further indication of its immense usefulness.

Reprints from this publication are widely circulated by the Bureau of Health Education of the American Medical Association. Moreover, *HYGEIA* serves to promote a wider audience for radio programs prepared by this bureau.

Advertising in *HYGEIA* has shown a gratifying increase in the year covered by this report.

The average monthly net paid circulation was practically the same in 1940 as in 1939.

The loss on this publication in 1940 was less than that sustained in 1939 by the sum of \$5,537.47. Total income was larger than in the preceding year by the sum of \$18,393.23.

Summary

From an editorial point of view *Hygeia* continues to hold its usual high place, and its circulation has been well maintained. Many *Hygeia* articles have been selected for republication in such periodicals as the *Reader's Digest*, and the magazine is used in many schools as a reference work and guide for students. During the year a series of picture presentations related to national defense attracted nationwide attention. Reports of the Council on Foods and Nutrition of the American Medical Association appear regularly in *Hygeia*. Reprints from this publication are widely circulated by the Bureau of Health Education.

The average monthly net paid circulation of *Hygeia* during 1940 was practically the same as in 1939. There was a gratifying increase in the amount of advertising in *Hygeia* in 1940, and the loss sustained through its publication was \$5,537.47 less than in 1939. The total income in 1940 was larger than in the preceding year by the sum of \$18,393.23.

American Medical Directory

The Sixteenth Edition of the American Medical Directory was completed on May 31, 1940. The new Directory contains 195,104 names, as compared with 188,916 in the previous edition, and there are 126 more pages.

The publication costs of the Sixteenth Edition amounted to \$173,869.99, approximately \$8,000 more than the cost of publication of the 1938 Directory. The net loss on the current edition amounted to \$8,939.26, as compared to the loss of \$8,488.90 incurred in the publication of the Fifteenth Edition.

Cooperative Medical Advertising Bureau

The Cooperative Medical Advertising Bureau, which is operated for the benefit of official organs of constituent state medical associations, represented thirty-four such publications in 1940. Although the *New York State Journal of Medicine* withdrew from the Bureau on Dec. 31, 1939, after a year's membership, the number of journals represented remained the same as in the previous year since the newly established *North Carolina Medical Journal* became a participant in January 1940.

Commissions earned by the Bureau in 1940 amounted to \$40,007.79, of which \$20,000 was remitted at the end of the year to the state medical journals represented. These remittances are made in proportion to the total amount of advertising secured for each of the journals. The operating costs of the Cooperative Medical Advertising Bureau in 1940 amounted to \$18,425.58, while cash discounts allowed in excess of cash discounts received amounted to \$1,582.21.

Mailing and Order Department

During 1940 the total number of pieces of first and third class mail handled through the Mailing Department, exclusive of publications of the Association sent to subscribers, was 2,243,021, and more than 3,800,000 envelopes of various sorts were required for all mailing purposes.

The Order Department during the year covered by this report handled 74,866 separate orders, which involved the distribution of nearly 400,000 units and the handling of 6,647 bags of mail.

Division of Drugs, Foods and Physical Therapy

Paul Nicholas Leech, Ph.D., Director of the Division of Foods, Drugs and Physical Therapy, died suddenly Jan. 14, 1941. In 1913 Dr. Leech joined the staff of the American Medical Association as a chemist and in 1923 became director of the Chemical Laboratory, working under Prof. W. A. Puckner, who was the Secretary of the Council on Pharmacy and Chemistry. Following the death of Professor Puckner in 1932 Dr. Leech became Secretary of the Council on Pharmacy and Chemistry, and when the Board of Trustees created the Division of Foods, Drugs and Physical Therapy he was appointed Director. For more than a quarter of a century Dr. Leech rendered devoted service in the cause of scientific medicine and earned for himself a nationwide reputation for integrity, scientific judgment and unswerving devotion to the highest ideals.

The Division of Drugs, Foods and Physical Therapy coordinates the work of the Council on Pharmacy and Chemistry, the Council on Foods and Nutrition and the Council on Physical Therapy, each Council functioning independently but receiving the mutual benefit of the coordination.

COUNCIL ON PHARMACY AND CHEMISTRY

During 1940 the demands made on the Council on Pharmacy and Chemistry have severely taxed its facilities. The Council, by giving prompt consideration to the evidence in support of new chemotherapeutic agents that have been produced, has attempted to cooperate to the fullest possible extent with the United States Food and Drug Administration, which is charged with rendering decisions under the Food, Drug and Cosmetics Act. Among important reports prepared by the Council were those dealing with the therapeutic value of sulfathiazole and sulfamethylthiazole, two derivatives of sulfanilamide. Other

informative reports have dealt with vitamins, hormones and surveys of drug therapy. These reports provide a consensus of expert medical opinion, and thus the decisions of the Council have been designed to aid physicians, manufacturers and government officials in consideration of the value of therapeutic agents. The value of the compilation and publication of expert medical opinion, a feature common to the work of all three councils of the Division of Drugs, Foods and Physical Therapy, warrants continued and expanded support of these councils by the medical profession.

REPORTS OF THE COUNCIL

The reports of the Council on Pharmacy and Chemistry reflect the varied activities of the Council on questions of timely therapeutic importance. The chemotherapy of syphilis has received impetus in a new direction by the introduction of the massive dose intravenous drip method. While this procedure appears to offer great possibilities in the treatment of early syphilis, some toxic reactions have been reported and the Council considers that further experimental studies of this form of therapy are needed and should be undertaken by those who have adequate facilities for conducting such investigations. In a preliminary report on acetylglycysarcosine, the Council pointed out that an efficient, painless arsenical for intramuscular use in the treatment of syphilis is of recognized value, but, again, further work needs to be done to define the usefulness of this preparation.

An interesting development in therapy is evidenced by the work on snake venoms. In a report on solutions of cobra venom the Council has noted that this preparation is capable of relieving pain, especially in cancer, but often fails completely and seldom can replace morphine entirely for any considerable time. Special care may be necessary in the administration of this preparation to patients with psychic disturbances or diseases of the liver or kidneys. The Council has also adopted a conservative view regarding the claims for solutions of moccasin venom and has expressed willingness to consider new evidence of its value in the treatment of hemorrhagic conditions when such evidence becomes available.

Within limitations, therapy with chorionic gonadotropin is of definite value, but in the opinion of the Council the efficacy of this preparation in the treatment of uterine bleeding and of male hypogonadism remains to be demonstrated.

Another report calls attention to dangers in the use of desoxycorticosterone in the treatment of Addison's disease, while still another reviews the reports of experiments on the use of lipocain, a pancreatic hormone concerned in the normal transport and utilization of fat.

At the request of the Board of Trustees, the Council has obtained further data on the promiscuous use of barbiturates. Dr. W. E. Hamburger has collated data on barbiturate poisoning in patients admitted to a number of hospitals during the decade 1928 to 1937. It has been found that, out of approximately 1,250,000 patients admitted to the hospitals reporting, there have been recorded 643 cases of acute barbiturate poisoning. Addiction to barbiturates is considered to be common, and the promiscuous use of these preparations is clearly responsible for many accidental intoxications that have produced fatal results.

Among other reports published by the Council in 1940 are discussions of progress in the use of histaminase in allergic manifestations, the possible value of phenothiazine as a parasiticide and antibacterial agent, the present status of the injection treatment of hernia and the limitations and advantages of organic mercurial compounds as bactericidal agents. The Council considers it desirable to control bromide therapy by analysis of the blood to determine that the bromide concentration does not rise above a safe therapeutic concentration of from 125 to 150 mg. to each 100 cc. of blood. The hazards of uncontrolled use of bromides by the general public is apparent. There are also reports on the use of guanidine hydrochloride in the treatment of myasthenia gravis and of calcium mandelate, which has been introduced as a form of mandelic acid therapy for the treatment of urinary infections. In discussions of the use of oxygen and carbon dioxide mixtures, the Council has directed attention to the need for caution in the treatment of dyspneic patients with tracheal obstruction. Dr. Paul R. Cannon reviewed for the Council the problem of lipid pneumonia which may occur

whenever exogenous lipids enter the pulmonary tissues and remain there long enough to cause irritation. Special attention has been given in the report to the methods of prevention.

A much quoted article has been the report on the treatment of habitual abortion with vitamin E. The evidence on the value of vitamin E preparations is conflicting, but some of the published results are sufficiently encouraging to justify further clinical experiment, provided preparations of vitamin E of known activity are used and provided adequate diagnosis and clinical control can be established.

As a result of consultations with representatives of other organizations, the Council has decided on the names pyridoxine and pyridoxine hydrochloride as designations for products formerly known as vitamin B₆ and vitamin B₆ hydrochloride. Late in the year there was held a meeting of the Cooperative Committee on Vitamins attended by members of the Council on Pharmacy and Chemistry, of the Council on Foods and Nutrition and several invited guests. As a result of these deliberations, it is anticipated that there will be extensive revision of the allowable claims for vitamins, which will be published in New and Nonofficial Remedies.

PUBLICATIONS OF THE COUNCIL

New and Nonofficial Remedies: This book, which is revised each year, contains the official list of products submitted and accepted for inclusion. More than five thousand copies were sold during 1940, and an equal number of copies in paper bound form have been distributed without cost to the members of the senior class of each recognized medical school. Extensive revisions are contemplated for the 1941 edition, particularly in the sections dealing with serums and vaccines and vitamin preparations.

Epitome of the U. S. Pharmacopeia and National Formulary: The revision of this volume, made necessary by the issuance of the second supplement of the U. S. Pharmacopeia XI, has been completed. The total sales of this book for the year number more than three thousand five hundred.

Useful Drugs: Because of a shortage in the number of available copies of this important publication of the Council, more than six thousand five hundred copies of which were distributed during the year, a new edition had to be prepared, approximately three thousand copies of which were sent out on request during the month of October.

Glandular Physiology and Therapy: A new series of articles on the endocrines is being published in THE JOURNAL, and the compilation of these articles in book form will probably be completed during 1941. It is apparent that advances in the endocrine field have occurred so rapidly that it is difficult even for those thoroughly familiar with the subject to keep up with these advances. This new series should be useful as a much needed review of recent developments.

A. M. A. Interns' Manual: This publication, prepared through the cooperation of the Council on Pharmacy and Chemistry and other councils and departments of the Association, has been well received but is now in need of revision. It is expected that a new edition of the book will be completed by June 1941, its editing, as well as that of several other special publications of the Council, being largely in the hands of Dr. Paul C. Barton, Director of the Bureau of Investigation, with the collaboration and supervision of members of the Council.

CHANGES IN MEMBERSHIP

During the year Dr. Ernest E. Irons, a member of the Council on Pharmacy and Chemistry for eighteen years, resigned because of his appointment as a member of the Board of Trustees, and Dr. Soma Weiss of Boston was elected to fill the unexpired term of Dr. Irons.

Summary

During the year the Council on Pharmacy and Chemistry has continued to give consideration to questions of timely therapeutic importance. Reports have been published on various questions dealing with chemotherapeutic agents, vitamins and hormones. Among the important reports issued by the Council have been discussions of the massive dose intravenous drip method in the treat-

ment of syphilis, a review of the status of therapy with snake venoms, and the evaluation of products such as chorionic gonadotropin, desoxycorticosterone and vitamin E. Informative reviews have been published on the promiscuous use of barbiturates and bromides, the use of histaminase in allergic conditions, the problem of lipid pneumonia and the therapeutic value of oxygen-carbon dioxide mixtures.

The Council has undertaken extensive revisions of its official publication, New and Nonofficial Remedies, in order to take care of newer developments in therapy. New editions of the Epitome of the U. S. Pharmacopeia and National Formulary and of Useful Drugs were prepared and published.

Under the sponsorship of the Council, a new series of articles on the endocrines was planned and publication in The Journal has begun. When completed, it is planned to publish this series in book form as a new edition of Glandular Physiology and Therapy.

COUNCIL ON FOODS AND NUTRITION

Because of increased emphasis on the educational aspects of its activities and by authorization of the Board of Trustees, the name of the Council on Foods was changed in 1940 to the Council on Foods and Nutrition. The medical profession, the manufacturers of food products and the public are looking to the Council more and more for expressions of authoritative opinion on new developments in the fields of food and nutrition. There now is under way a plan of revising the scope of the work of the Council so that particular attention may be directed to foods intended especially for infants, for the sick and for special dietary purposes. Special attention also needs to be given to those food products which have been manufactured in ways intended to enhance their nutritive properties.

FORTIFICATION OF FOODS

The national defense program has given impetus to the development of nutritionally improved foods, and the policies enunciated by the Council on previous occasions have done much to guide this development along proper channels.

Members of the Council on Foods and Nutrition have been active participants in the work of the Subcommittee on Medical Nutrition of the National Research Council and also of a nutrition committee under the auspices of the Federal Security Agency. An important question given consideration by each of these committees as well as by the Council pertains to the improvement of white flour. A detailed report on the nutritional enrichment of flour and other cereal products is being prepared for publication so that the medical profession may be kept informed of developments in this important field.

COOPERATIVE COMMITTEE ON VITAMINS

Members of the Council on Foods and Nutrition and of the Council on Pharmacy and Chemistry as well as distinguished invited guests attended a meeting of the Cooperative Committee on Vitamins, at which problems in this field were discussed. The Cooperative Committee decided that there is insufficient evidence to warrant approval of a proposal to add carotene to milk, and that, because milk with 400 U. S. P. units of vitamin D to the quart, when ingested in the customary amounts fed to infants, will provide sufficient vitamin D to prevent rickets and to promote optimal growth and tooth development, milk with greater amounts of vitamin D would not be acceptable.

The Council considers it desirable to encourage more research on the vitamin content of foods. Recent investigations have called attention to the liberal quantities of certain members of the vitamin B complex in meat, notably thiamine, riboflavin and nicotinic acid. Other investigations have shown peanuts to be a significant source of vitamin B₁.

REPORTS AND PUBLICATIONS OF THE COUNCIL

Among the reports of general interest sponsored by the Council during the year is an informative article, prepared by the late Dr. Mary Swartz Rose, on the effect of quick freezing on the nutritive value of foods. The Council finds from its review

that the vitamins and other nutritive essentials of foods are well preserved by this process although there may be considerable loss of thiamine in the blanching of certain vegetables preparatory to freezing the products.

The study of the significance of lead in foods has been continued, and a report emphasizing the value of calcium in the diet in preventing the storage of lead in the body has been published. On the basis of available evidence, the Council has not considered it advisable to change the tolerance for toxic spray residues on accepted products.

The book *Accepted Foods and Their Nutritional Significance* is the official publication of the Council on Foods and Nutrition. It not only contains descriptions of accepted products but also provides an account of Council decisions on many general topics in nutrition. More than two thousand six hundred copies of this book have been distributed.

Each month during the year there has been published in *HYGEIA* an article on foods and nutrition prepared in the office of the Council and based on Council opinion.

DECISIONS OF THE COUNCIL

The Council has voted to accept salt containing 0.01 per cent iodide—approximately one-half the previous amount—provided suitable evidence is made available that the iodide content is stabilized at this level and provided also that manufacturers are using improved methods for the uniform distribution of iodide throughout the salt.

Other questions given consideration by the Council have dealt with the informative labeling of chopped foods intended for the feeding of infants and young children and with what constitutes suitable desserts for children.

COUNCIL CONSULTANTS

The following persons were among those called on as consultants during the year, and their services are gratefully acknowledged: Drs. Adam S. Christman, Kate Daum, Arild E. Hansen and Genevieve Stearns and Miss Mary A. Foley. At the meeting of the Cooperative Committee on vitamins, the following distinguished guests were present: Drs. C. A. Elvehjem, Paul E. Howe, C. G. King, T. G. Klumpp, William H. Sebrell Jr. and Albert Snell. All of the gentlemen contributed to the discussions.

Summary

During the year the name of the Council on Foods was changed by authority of the Board of Trustees to "Council on Foods and Nutrition" in recognition of the direction which the work of the Council is taking. While attention is being directed to broad nutritional problems, the Council continues to give consideration to individual food products. The scope of the Council's work gradually is being revised to permit emphasis on items which present special problems, such as foods intended for the feeding of infants, products for feeding the sick and preparations for special dietary purposes.

Members of the Council have rendered helpful service to governmental and other agencies concerned with problems of nutrition, an important development being the nutritional improvement of white flour and ordinary bread whereby these foods will provide more of the important vitamins and minerals found in wheat grain. It is worthy of note that this program is in essential harmony with the basic principles of the Council regarding the fortification of foods.

Vitamins have continued to receive particular consideration by the Council, especially questions relating to vitamin D milk. The opinion was reached that vitamin D milk need not contain more than 400 U. S. P. units of vitamin D to the quart, because this amount is satisfactory for all known nutritional requirements and because there is little evidence that more vitamin D is of benefit. The Council considers it desirable to encourage more research on the vitamin content of foods, especially of those that are readily obtainable for persons of limited income.

Among the problems given consideration by the Council have been the effect of quick freezing on the nutritive value of foods, suitable tolerances for toxic spray residues on certain foods and the proper amount of iodine in iodized salt.

A number of reports of the Council have been published in *The Journal*, and each month an article on foods or nutrition has been published in *Hygeia*.

COUNCIL ON PHYSICAL THERAPY

The Council on Physical Therapy has continued its investigations of physical therapy apparatus and methods and its issuance of reports based on such investigations. It has endeavored to promote the use of sound physical therapeutic measures and to encourage research in the field of physical therapy. The Council has also attempted to gather and to disseminate information that will be helpful to physicians in determining the therapeutic value of devices and methods represented for use in physical therapy.

Important activities of the Council during the last year included the consideration of various types of physical therapy apparatus, the promotion of education and the active participation with other agencies in aiding medical preparedness. Members of the Council are serving on the Subcommittee on Physical Therapy of the National Research Council in connection with the development of the national defense program.

RADIO INTERFERENCE

For several years the Council has been concerned with the problem of interference with radio reception resulting from the use of diathermy apparatus. Several solutions such as the screening of treatment rooms and frequency allocation have been suggested. It now appears that frequency allocation will be the most satisfactory plan. At a recent conference held by the Federal Communications Commission at which the medical profession was represented by members of the Council, a spokesman for manufacturers of electromedical equipment asked that sixty channels in all be allocated on which to operate diathermy equipment. The Commission felt that this request required the setting aside of too many valuable channels of communication and urged that apparatus be manufactured which would operate on one channel without extensive deviation. The Council voiced its disapproval of any requirements which may lead to excessive increase in the cost of electromedical equipment and hence in the cost of diathermy treatments. No final agreement was reached, and future conferences will be held to study the problem.

INVESTIGATION OF APPARATUS

In the consideration of apparatus it has been necessary in many instances to reinvestigate and reconsider submitted appliances before publishing final reports. Reports on sixty-eight pieces of apparatus were published in *THE JOURNAL* during 1940.

The booklet "Apparatus Accepted," in which are described briefly the devices on the Council's accepted list, was revised during the year. This booklet is widely distributed, and the increased demand for it indicates that many physicians find it a valuable aid in the selection of apparatus.

EDUCATION IN PHYSICAL THERAPY

The group of consultants on education who aid the Council's Committee on Education in acquainting the medical profession as to the benefits obtained from sound physical therapeutic methods has been enlarged and now consists of twelve members. This subcommittee of the Council has carried on an active program of education by means of lectures, exhibits, addresses before medical audiences and the writing of informative articles. The Council notes with gratification the increased number of courses in physical therapy being given in medical schools and the growing efficiency of physical therapy departments now operating in many hospitals. The Council is ready at all times to aid in the establishment of suitable courses of instruction in physical therapy as a regular part of the curriculum.

REPORTS PUBLISHED

Among important articles published during 1940 under the auspices of the Council were "Acceptance of Sunlamps," "Shoes and Feet," "Tentative Minimum Requirements for Acceptable Electric Hearing Aids," "Council Inspection of Roentgen Ray Apparatus," "Physical Therapy in Arthritis with Special Reference to Home Treatment," "Progress Report of the Consultants on Audiometers and Hearing Aids," "Acceptance of Hearing Aids," "Dangers Incident to the Indiscriminate Use of Radium Compounds or Radon," three chapters of the Handbook on Amputations entitled "Physiologic and Psychologic Principles in Amputations," "General Principles Governing All Amputations" and "Sites of Election for Amputation," and two articles prepared by the Committee on Contraceptives of the Council entitled "Rubber Sheaths" and "Clinical Contraceptive Results in a Small Series of Patients."

Motion pictures prepared under the auspices of the Council and illustrating the use of sound physical therapy methods were shown on one hundred and eighty-three occasions, and seventeen scientific exhibits were installed and demonstrated at various scientific meetings. Council members and consultants delivered approximately ninety-five addresses on physical therapy, published thirty-six papers and three books, and participated in the teaching of twenty-six courses in physical therapy.

RESEARCH

Through its Committee on Research, the Council awarded eleven grants in aid of research. The grants were extended for use in the investigation of problems as follows:

1. To determine the therapeutic effects of prolonged periods of fever in early (primary and secondary) syphilis.
2. To secure a continuous record of the total daily amount of ultraviolet radiation of wave lengths 3,200 angstroms and shorter, under all weather conditions, as a function of the season and the geographic latitude.
3. To determine the influence of tissue temperature on the duration of viability of tissues in structures deprived of circulation in the living animal.
4. To study blood flow, especially of the abdominal viscera, as affected by external heat and cold, massage and other agents, and to develop an improved method of blood flow measurement based on a resistance thermometer principle.
5. To determine the effect of short wave heating on the healing of fractures.
6. To aid in a study of the biologic and medical effects of ultra short waves ranging between 1 to 15 cm.
7. To study the comparative value of direct heat versus reflex heat applied to the ischemic foot or leg.
8. To study the physiologic effects of short wave diathermy to be shown by gastroscopic investigations of cases of atrophic gastritis in tuberculosis, and by thermoelectric determinations of stomach temperatures before and after short wave diathermy applications.
9. To build a lamp with which to study the physiologic effects of the borderline rays of the visible and infra-red region and their eventual therapeutic usefulness.
10. To evaluate the forms of electric currents marketed by various manufacturers for muscle stimulation.
11. To study the effect of the radiant energy generated by high pressure quartz mercury lamps and low pressure mercury arc lamps on healing of noninfected wounds.

AUDIOMETERS AND HEARING AIDS

In its investigation of audiometers and hearing aids, the Council has had the advantage of active and intensive cooperation on the part of a group of highly qualified consultants who have devoted a great deal of time and effort to the study of these instruments. A report of progress, published in THE JOURNAL during the past year, indicates the following attainments:

1. Minimum requirements for acceptable audiometers have been formulated, adopted and published.
2. Audiometers for diagnostic use have been investigated and accepted.
3. Requirements for acceptable hearing aids have been formulated, adopted and published.
4. Hearing aids have been investigated and accepted or rejected, and this information has been made available to the profession and the public.
5. A survey of methods for determining the percentage of disability due to deafness has been undertaken.

ARTIFICIAL LIMBS

Through the diligent efforts of the consultants on artificial limbs, a group composed of surgeons and of representatives of the Association of Limb Manufacturers of America, Inc., the Handbook on Amputations is well on the way to completion. Three chapters of the book have already appeared in THE

JOURNAL, and the remaining chapters are now being reviewed by the Council. When these articles have been published they will be reprinted in book form.

ELECTROCARDIOGRAPHS

The preparation of a tentative list of requirements for electrocardiographs has engaged the attention of the Council and its consultants on electrocardiographs. Although the requirements are highly technical and must be given a great deal of consideration, rapid progress toward adoption is being made.

ROENTGEN RAY APPARATUS

The study of roentgen ray problems has progressed, and articles on "Council Inspection of Roentgen Ray Apparatus" and "X-Ray Protection" have been published in THE JOURNAL. A plan is being developed for the consideration of portable apparatus in cooperation, perhaps, with the National Bureau of Standards.

Summary

The Council on Physical Therapy has investigated and issued reports on physical therapy apparatus and methods, has encouraged research and has carried on an effective program of education. Members of the Council are serving on the Subcommittee on Physical Therapy of the National Research Council in connection with the development of the national defense program.

Representatives of the Council have participated in a conference called by the Federal Communications Commission to study the problem of interference with radio reception resulting from the use of diathermy apparatus. The Council disapproved of requirements which may lead to excessive increase in the cost of electromedical equipment and will participate in future conferences to study the problem.

Reports on sixty-eight devices were published in THE JOURNAL during 1940, among which were reports on diathermy apparatus, fever therapy equipment, hearing aids, infra-red generators, respirators, ultraviolet radiation equipment and others. A new edition of the booklet "Apparatus Accepted" was issued.

Eleven grants in aid of research were awarded, and reports on five of the research problems have been made to the Council.

Three chapters of the Handbook on Amputations have been published in THE JOURNAL, and the book is nearing completion.

A tentative list of requirements for electrocardiographs is being prepared, and the investigation of roentgen ray problems has progressed.

The Council's program of education included lectures, exhibits, addresses and the writing of thirteen informative articles by Council members and the consultants on education. The operation of efficient physical therapy departments in hospitals and the increasing number of courses in physical therapy given in medical schools are gratifying to the Council.

THE CHEMICAL LABORATORY

The Chemical Laboratory has been concerned largely with the examination of new products submitted to the Council on Pharmacy and Chemistry and of nostrums of interest to the Bureau of Investigation. In addition to the reexamination of already accepted products and of new dosage forms of old products, there have been developed tests and standards for new drugs. Considerable attention has been devoted to sulfathiazole and other derivatives of sulfanilamide.

Investigations have been completed by which new standards have been prepared for atabrine dihydrochloride, drisdol, nikethamide, sulfathiazole, zinc insulin crystals, gastric mucin, sodium r-lactate, sodium citrate solution, a number of calcium salts and other preparations.

The microchemical laboratory has been refurbished, and new electrolytic equipment has been added to provide for the extension of its activities.

Members of the laboratory staff have appeared before several scientific societies during the year.

Council on Industrial Health

INDUSTRIAL MEDICINE AND NATIONAL DEFENSE

The past year has been characterized by a greater realization, both in and out of the medical profession, of the important contributions which industrial medicine, surgery and hygiene can make to the national defense. The Council on Industrial Health promptly developed a preparedness program in the expectation of being as helpful as possible to the Committee on Medical Preparedness of the American Medical Association and the Division of Industrial Hygiene of the National Institute of Health. In the development of plans for increased and improved preventive and curative medical service to employed persons it was considered imperative that all possible sources of assistance within the profession be investigated. The details of the Council's program, therefore, included the following proposals:

1. To identify all physicians now engaged in any form of industrial medical service. This activity, later incorporated into the program of the Committee on Medical Preparedness, has progressed rapidly. According to the latest information, nine thousand, five hundred and fifty-seven physicians have indicated special interest in or limitation of practice to industrial medical work.

2. To obtain from each physician so engaged a statement of special qualifications for industrial work and the nature of medical facilities under his supervision. Information of this character is now on file concerning some three thousand, four hundred and sixteen physicians.

3. To acquire and publish information on the location and control of dangerous industrial health exposures.

4. To improve and augment the organization of cooperating committees on industrial health in the state and county medical societies to the end that—

- (a) Agencies can readily be formed in industrial areas with knowledge and authority to determine where industrial medical service is needed and to arrange that the service be supplied.

- (b) Proper coordination may exist between all independent agencies having an interest in industrial health, notably physicians in general and special practice, nurses, hygienists and other technical experts.

- (c) Proper correlation may exist of all activities bearing on the problem of industrial physical examination.

5. To assist in the development of intensive training courses in industrial health methods.

6. To insist that an assignment in industrial practice be regarded as equal in importance and dignity to a medical assignment with the combat forces.

Subsequently the Council undertook to discover all available consulting facilities in industrial hygiene and toxicology to which private practitioners and industrialists might turn in case of need. This work has proved to be of considerable interest and, although still incomplete, has suggested the necessity for elaborating standards to define the professional equipment and facilities of these consultants and laboratories.

The Council's defense program was recently reviewed at a joint session with the Subcommittee on Industrial Health and Medicine of the Federal Security Agency, appointed to establish coordination of medical activity in industry. At this meeting confidence was expressed in the efficacy of the facilities established in the American Medical Association for carrying out the terms of this program. A committee with representation from both the Council and the Subcommittee on Industrial Health and Medicine was appointed to draw up a statement of the requirements for training additional personnel, the cost of such a program and the preferred method of administration through the U. S. Public Health Service and jointly by committees on industrial health in the state medical associations and bureaus of industrial hygiene in the state governments.

EDUCATIONAL ACTIVITY

The general details of the Council's educational program have been described in previous reports and include an annual Congress on Industrial Health, a special Industrial Health Number of THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, a publication program covering essential details of medical

organization in industry and occupational diseases, maintenance of a clearing house of information for the profession and others, preparation of an outline and syllabus for industrial medical training useful in both undergraduate and graduate teaching, and the development of exhibit material. All these measures have been receiving continuous attention. The proposals regarding undergraduate and graduate instruction have been submitted to the Council on Medical Education and Hospitals in the hope that its influence might be exerted for prompt adoption of industrial medical teaching programs in the medical schools and in state and county medical societies.

The Council also is convinced that, if there is to be widespread demand of competent preventive industrial medical service, means must be provided for the joint education of the industrialist and the physician. Good precedent now exists for the development of such an educational program under medical society sponsorship, and the Council hopes to proceed actively in this direction henceforth. In the same way there should be many opportunities for assuring workers and workers' organizations of the many benefits attaching to medical and engineering supervision over working environment.

RELATIONSHIPS WITH GROUPS AND ORGANIZATIONS

Committees on Industrial Health in State and County Medical Societies.—The organization of cooperating committees on industrial health in constituent and component medical societies has proved to be of inestimable administrative value. The actual number of such committees in state medical societies cannot be greatly increased. Henceforth improvement in the nature of representation on these committees and extension of this method of organization into the county medical societies in industrial areas will be emphasized. The part which these committees will play in encouraging increased service to industry by physicians both in private and in industrial practice has been recorded in previous annual reports of the Council as well as in connection with the defense program. It is expected that a field force will be employed to hasten the adoption of recommendations and programs which the Council has developed regarding the practice of industrial medicine under ethical and scientific standards. Industrial health bulletins have been regularly prepared as a means of acquainting these cooperating committees with the Council's proposals and of interchanging experience and information between the states themselves.

Sections of the Scientific Assembly.—Active interest has been taken in the programs of the Section on Preventive and Industrial Medicine and Public Health. It has seemed advisable to invite the development of industrial health committees in all the sections of the Scientific Assembly that are regularly confronted with industrial problems, these committees to act in an advisory capacity to the Council. A first step has been taken through a joint meeting with the membership of the Committee on Industrial Dermatoses of the Section on Dermatology and Syphilology. An important feature would be to facilitate inclusion of industrial health subjects in the programs of all the sections.

Industrial Nurses.—The Council has considered it highly desirable to lend all possible encouragement to efforts to improve the professional status of industrial nurses. Current projects undertaken by the nurses themselves are the definition and establishment of suitable training courses, the preparation of a handbook on industrial nursing and an investigation of the possibilities for employment of industrial nurses as the first step toward providing preventive medical practice in small plants. The Council has been requested to act in an advisory capacity in these developments.

Insurance Organizations.—It has long been advocated that some consulting arrangement should exist between organized medicine and casualty insurance organizations in order that there might be clarification of the objectives of each. The first of such meetings has occurred between the Council and representatives of both stock and mutual insurance companies. Although no commitments occurred, it was demonstrated that: (a) The insurance group is vitally interested in and will actively support any program of medical education which will increase the supply of competent practitioners in the field of trauma, industrial hygiene and occupational disease. This attitude is related to

the increasing acknowledgment by insurance carriers that there should be a greater spread of compensation practice within the medical profession. (b) Periodic reviews of medicoinurance relationships should occur in the hope that better results will be obtained through voluntary consultation and agreement than through legislation. These periodic discussions should cover medical testimony, free choice of physician, fee schedules and similar problems. The sentiment was also expressed that the Council could act as a clearing and reference committee for research projects which the insurance organizations or others wish to inaugurate or support.

STANDARDS OF INDUSTRIAL PRACTICE

A subcommittee of the Council has completed the preparation of Principles Governing Industrial Medical Practice, which will be submitted to the Board of Trustees for approval.

NOMENCLATURE

The task of collecting and organizing a dictionary of terminology used in the whole field of industrial health is now largely completed by the Council's Committee on Nomenclature. After some additional editing and review, this material will be submitted to the Board of Trustees preparatory to publication.

WORKMEN'S COMPENSATION

The Council has continued to press for the adoption of uniform and complete reports covering occupational morbidity and mortality. The absence of uniform reports at the present time is a serious obstacle to any satisfactory definition of the extent of occupational health exposure and the relation of trauma to disease.

The Council has also brought to the attention of cooperating committees in the constituent state medical associations the actions passed by the House of Delegates regarding the desirability of medical representation on all workmen's compensation administrative boards.

INDUSTRIAL PHYSICAL EXAMINATIONS

Additional evidence reaffirms the opinion that preemployment and periodic physical examinations in industry are of real value in the conservation of the health of employees and in the control of occupational health exposures. If properly conducted, this practice will grow. The objectives, extent, technics employed, cost and personnel necessary are currently under investigation. The whole problem is one of unusual interest and will necessitate the issuance of separate reports from time to time on progress in this field. The Council has also been asked to submit a report on this subject with respect to the headquarters staff of the American Medical Association.

Summary

Much of the activity of the Council on Industrial Health during 1940 has been directed toward the adjustment of its original program to the requirements for national defense. This phase of the work has occurred under three major headings:

1. The determination of existing competent personnel for active industrial medical service and for consultation, investigation and teaching.
2. The definition of methods and establishment of facilities for the training of additional preventive industrial medical practice.
3. The correlation of the industrial work of the private practitioner, the industrial physician and the public health administrator particularly at state and county levels.

As a direct means of accomplishing these essential details of industrial medical preparedness, added stress has been placed on the Council's educational program through the Congress on Industrial Health, introductory and refresher courses, short but intensive teaching programs, county and state medical society meetings, publications, exhibits and clearing house and information services. Cooperation has been sought from the Council on Medical Education and Hospitals in order that its influence may be used to inaugurate promptly teaching programs in professional schools and, through post-graduate committees, in the state medical societies.

Field work continues to be regarded as essential to successful state and county relationships, without which the work of education and elevation of industrial medical standards would be seriously hampered. In this connection the Council has completed preparation of principles intended to guide the physician in all ordinary industrial relationships. The very considerable task of compiling and annotating a dictionary of industrial health terminology has also been largely finished and awaits further editorial and critical review in advance of plans for publication.

Closer working and advisory relationships are in prospect between the Council on Industrial Health and the specialty groups in medicine acting through the sections of the Scientific Assembly. A pattern for such an administrative arrangement has been set through consultation with the Committee on Industrial Dermatoses of the Section on Dermatology and Syphilology. In a similar way exploratory conversations have been conducted with the industrial nursing organizations and with insurance associations. All cooperating committees have been notified about the need for greater medical participation in the administration of workmen's compensation and for better integration between compensation boards, vocational rehabilitation services and the medical profession.

Bureau of Health Education

The work of the Bureau of Health Education has for the most part been directed along the same lines as heretofore reported to the House of Delegates.

During 1940 the Bureau received and answered approximately ten thousand letters from laymen. Regular Bureau correspondence included the receipt of and replies to almost five thousand letters, while miscellaneous mail, including communications stimulated by the Association's radio broadcasting program and those received from persons who visited the Association's exhibits at the New York World's Fair, the Museum of Science and Industry, Chicago, and the Cleveland Health Museum amounted to approximately two thousand five hundred pieces.

BUREAU PUBLICATIONS

Twenty-four new pamphlets were added to the list of publications maintained by the Bureau of Health Education, while ten of the pamphlets formerly used were revised and six discontinued. More than one hundred and fifty-nine thousand copies of the publications sponsored by this Bureau were sold in 1940.

A third set of health posters based on *HYGEIA* cover plates was prepared and published in 1940 after a large demand for the posters in the first two series had developed. Twenty-four such health posters made up into three sets, each set being provided at nominal cost, are now available.

The Director and Assistant Director of the Bureau have cooperated as fully as possible with the Editorial Department of *THE JOURNAL* and *HYGEIA*. Twenty-three articles originating in the Bureau of Health Education were published in 1940 in publications other than those of the American Medical Association.

RADIO PROGRAM

In cooperation with the National Broadcasting Company, the program "Medicine in the News" was completed in May, at which time the fifth season of dramatized network broadcasting terminated.

A new series of dramatized radio broadcasts under the title "Doctors at Work" was begun in November. For the first time in American Medical Association broadcasting, an evening hour on a nationwide network was assigned, namely, Wednesday, 10:30 p. m. eastern standard time. The program is a serialized story of a fictitious young man entering the profession of medicine. Incidental to the main theme of the program is an explanation, week by week, of the important specialties in medicine and the functions of the several specialists.

State and county medical societies and the Woman's Auxiliary have continued their valuable cooperation in publicizing the Association's broadcasting program.

At the New York session radio broadcasts were arranged in cooperation with ten local and network radio stations. There were thirteen local broadcasts, two National Broadcasting Company network broadcasts, three Columbia Broadcasting System network broadcasts and three Mutual Broadcasting System network broadcasts plus four broadcasts of news items incorporated in a regular news broadcast by one radio station. Foreign language broadcasts in Italian, Yiddish and German, translated from President Rock Sleyster's Columbia Broadcasting System talk, were arranged by the Medical Information Bureau of the New York Academy of Medicine.

The radio library maintained by the Bureau provided approximately six thousand prepared radio "talks" that were sent out on request. Thirty medical societies received material from the radio library for the first time in 1940. Approximately one hundred and twenty-five medical societies received through the Bureau of Health Education timely material suitable for special broadcasts. The members of the Bureau's staff delivered four radio talks over local stations outside Chicago while traveling to address meetings. The Hidalgo-Starr County (Texas) Medical Society translated a number of radio talks into Spanish and broadcast them in that language from Donna, Texas. The Bureau also assisted in preparing or editing radio scripts for other organizations.

MEETINGS AND CONFERENCES

In 1940 the Director and the Assistant Director of the Bureau of Health Education appeared before one hundred and twenty-six audiences in various parts of the United States. These appearances involved approximately 33,000 miles of travel, and communities in twenty states were visited. It was not possible to accept all the invitations extended to the Bureau's staff; fifty-four such invitations had to be declined because of schedule conflicts or for other important reasons. Attendance at nine medical meetings addressed by members of the Bureau's staff was four hundred and ninety-two. One hundred lay audiences were addressed with an attendance of twenty-five thousand, two hundred and seventeen persons, and seventeen addresses were delivered before audiences composed of teachers, nurses and members of other professional groups with an attendance of approximately five thousand.

HYGEIA CLIPPING LOAN SERVICE

The HYGEIA clipping collections were lent to six hundred and one physicians in forty-three states to aid them in preparing speeches for lay audiences. Local HYGEIA loan collection projects have been initiated by several medical societies. This development tending toward decentralization reveals a wholesome trend and is, in fact, the only way in which this Bureau can hope to meet all the health education needs of the medical profession.

COOPERATION WITH LAY ORGANIZATIONS

Joint Committee on Health Problems in Education.—The Joint Committee met in St. Louis in February during the meeting of the American Association of School Administrators. Dr. Charles C. Wilson, Hartford, Conn., was elected chairman of the Joint Committee, with Dr. Thurman B. Rice, Indianapolis, vice chairman and Dr. W. W. Bauer, Chicago, secretary. Dr. Edward Jackson, Denver, senior representative of the American Medical Association, declined reappointment at the termination of his one year term and was succeeded by Dr. George M. Lyon, Huntington, W. Va.

During 1940 final editorial approval was given to the book "Health Education," which is a complete reorganization and a virtual rewriting of the original report published in 1924 and previously revised in 1930.

A fourth Symposium on Health Problems in Education under the sponsorship of the Joint Committee together with the Section on Pediatrics, the Section on Preventive and Industrial Medicine and Public Health, the Section on Ophthalmology and the Section on Laryngology, Otology and Rhinology of the American Medical Association was held during the annual session of the Association in New York.

American Association of School Administrators.—The Director of the Bureau of Health Education was appointed by the American Association of School Administrators to its 1942

Yearbook Commission on Health Education. This commission met twice in 1940 for the preparation of a yearbook on health problems in the schools. The commission appears to intend to avoid controversies which will necessitate minority reports and to publish such consensus as can be arrived at or to present controversial questions impartially from both points of view.

4-H Clubs.—The National Committee on Boys and Girls Club Work (4-H Clubs) continued in 1940 as in previous years. A project which received some discussion in 1940 was an interest in tuberculosis control and education. On the advice of the Bureau of Health Education it appears that this project, when developed, will be handled largely through existing health and antituberculosis organizations rather than through separate channels originally contemplated by the National Committee.

National Congress of Parents and Teachers.—The National Congress of Parents and Teachers continues its Summer Round-Up of the Children, and the Director of the Bureau of Health Education continues on the advisory board. No new developments of any importance occurred in 1940, except that the congress discontinued the acceptance of Summer Round-Up blanks as a gift from the Association for the year 1940 but has renewed the previous arrangement for the year 1941.

General Federation of Women's Clubs.—The Director of the Bureau continues to be a member of the Advisory Committee to the General Federation of Women's Clubs, but no meetings were held in 1940.

American Public Health Association.—The Director of the Bureau of Health Education is a member of the Committee on Professional Education of the American Public Health Association Section on Health Education. The Director served as a member of the Planning Committee for the Health Education Institute of the American Public Health Association in connection with the annual meeting at Detroit in October.

Other Organizations.—Among other organizations with which the Bureau has maintained cooperative relations are the American Film Center (Committee on Public Health), the American Camping Association (Advisory Board), the Accident Prevention Conference, United States Department of Commerce (Safety Groups Committee), and the Joint Committee on Community Nursing Service (Advisory Committee).

COOPERATION WITH STATE AND COUNTY MEDICAL SOCIETIES

The Bureau has continued to serve as a clearing house of information to state and county medical societies and to be of assistance in developing cooperative programs and satisfactory relationships between the medical profession and other organizations working toward similar ends.

COOPERATION WITH GOVERNMENTAL AGENCIES

As in previous years, the Bureau has continued its cooperation with departments of the federal government and of state governments, including health departments and departments of education. It has also cooperated as fully as possible with local boards of health, school boards and libraries. The federal departments and divisions with which the Bureau has maintained cooperative relationship include the Federal Security Agency, Department of Commerce, Veterans' Administration, Department of the Interior, Treasury Department, Department of State, Department of Agriculture and Department of Labor.

The Director of the Bureau of Health Education was reappointed to serve on the General Advisory Committee of the United States Children's Bureau for three years.

PROTECTION OF RESEARCH

The Bureau of Health Education cooperated, as in the past, with the Committee for the Protection of Medical Research and in May distributed six thousand copies of the pamphlet entitled "Animals in Research" to the members of graduating classes of medical schools.

WOMEN'S HEALTH INTERESTS

In cooperation with the Woman's Auxiliary, the Bureau of Health Education made preparations for a questionnaire study of women's health interests with particular reference to the relationship of their economic and educational status to general reading and radio listening habits as well as to specific reading

and listening habits with respect to health material. The actual studies will be made by the woman's auxiliaries to county medical societies. No actual local studies were made in 1940, but considerable time was given to the preparation of basic arrangements in order that the study might proceed in 1941.

Summary

The Bureau of Health Education answered approximately ten thousand letters from laymen, five thousand from physicians and cooperating agencies and two thousand five hundred stimulated by World's Fair exhibits, health museums and radio programs. Twenty-four new health pamphlets were added to the list of publications, ten revised and six discontinued. More than one hundred and fifty-nine thousand copies of Bureau publications were sold by the Association in 1940, plus approximately one hundred and twenty thousand reprints which were sold in quantities to other organizations. A third set of health posters based on Hygeia cover plates was prepared. The Bureau contributed twenty-three articles to publications other than those of the American Medical Association.

A new radio series, *Doctors at Work*, was begun in November, supplanting the previous title *Medicine in the News*. Twenty-five network and local radio programs were broadcast over ten radio stations and three networks during the New York session of the American Medical Association, including one broadcast each in Italian, Yiddish and German. Approximately six thousand prepared radio talks were sent out to state and county medical societies from the Bureau's radio library of almost a thousand titles.

The Director and Assistant Director appeared before one hundred and twenty-six audiences, involving 33,000 miles of travel in twenty states and accounting for a total audience of approximately thirty thousand, seven hundred persons. Hygeia loan clipping collections were lent to six hundred and one physicians in forty-three states to aid them in preparing talks for local lay audiences.

The Bureau continued its cooperation with the National Education Association, the National Committee on Boys and Girls Club Work (4-H Clubs), the National Congress of Parents and Teachers, the General Federation of Women's Clubs, the American Public Health Association, the American Film Center, the American Camping Association, the Accident Prevention Conference of the U. S. Department of Commerce, the Joint Committee on Community Nursing Service and eight departments of the United States Government. The Director continued to serve on the General Advisory Committee of the U. S. Children's Bureau and was appointed one of twelve members of the 1942 Yearbook Commission of the American Association of School Administrators to prepare a Yearbook on Health.

Miscellaneous projects included continued cooperation with the American Medical Association Committee for the Protection of Medical Research and a cooperative project with the Woman's Auxiliary to the American Medical Association, namely a nationwide questionnaire survey of women's health interests.

Bureau of Legal Medicine and Legislation

CORRESPONDENCE

With respect both to volume and to subject matter the correspondence carried on by the Bureau during the year varied little from that during the period of the preceding report. Approximately one third of the correspondence was with constituent and component medical societies, a third with individual physicians and the remaining third with a miscellaneous group including attorneys, hospitals, colleges, organizations of various types and members of the lay public. As referred to in the report for last year, attorneys are with more frequency resorting to the medicolegal files of the Bureau.

The inquiries received related to a wide variety of subject matter, including aliens and medical licensure, authorization of necropsies and operations, basic science laws, birth control, amendments to the constitutions and by-laws of constituent and component societies, food and drug laws, cult practice in hospitals, malpractice, medical licensure, medical legislation, premarital and antepartum examination laws, medical and hospital service plans, tests for drunkenness, narcotics, partnership agreements, poisoning, cultists, roentgenograms, income taxes, expert testimony, trauma and various diseases, and workmen's compensation generally. It should be reemphasized that in supplying information the Bureau cannot function in the role of an attorney for the inquirers by giving personal legal advice. This emphasis seems necessary, because some physicians still expect that type of service from the Bureau. Physicians in need of legal advice should consult competent local counsel. If that counsel desires the benefit of the information accumulated in the files of the Bureau, a request from him will be given prompt consideration.

LAWS REGULATING THE USE OF BARBITURATES

During the year a study was made of the laws enacted in the several states to regulate the use of barbiturates. This study was prompted by the many inquiries received by the Bureau from constituent state medical associations. As of May 1, 1940 twenty-seven states had enacted laws of the type under discussion, in twenty-five of which retail sales of barbiturates are limited to sales on prescription. This indicates a rather general appreciation of the dangers incident to over the counter sale of these drugs. In Connecticut, while the law seems to limit the sale of barbiturates to sales on prescription, the attorney general of the state has ruled otherwise. In Oklahoma, sales may be made either on prescription or without a prescription if the pharmacist records such sales in much the same manner as he is required to record sales of poisons generally. These laws follow no well defined pattern. In four states the regulation of the sale of barbiturates is accomplished through the medium of food, drug and cosmetic acts. In two other states such drugs are brought within the purview of narcotic drug acts. In the other states, while special laws have been enacted to prohibit over the counter sales of these drugs, the requirements differ in the several states. In seven states compounds, derivatives and preparations intended for external application, such as gargles, sprays or liniments, are specifically exempted from the requirements of the laws; in the other states there is no such exemption. In ten states the laws definitely either forbid the refilling of prescriptions for barbiturates or provide that they may be refilled only on the direction of the prescriber. In New York, by rule of the Board of Regents of the University of the State of New York, no prescription for a hypnotic or somnifacient drug intended for internal use may be refilled if it bears the statement of the prescriber that it is not to be refilled. In two states that otherwise forbid the refilling of prescriptions except on the written order of the prescriber, prescriptions for phenobarbital may be refilled without such written order. In one state, Virginia, the law definitely states that a prescription may be refilled. In the other states the laws contain no express provision with respect to the refillability of prescriptions.

The results of the study made by the Bureau were published in *THE JOURNAL*, May 18, 1940 and are now available in a reprint that also contains, among other data, reports by the Council on Pharmacy and Chemistry on the dangers incident to the promiscuous use of barbiturates. This reprint should be of value to state associations that desire to initiate legislation to prevent the misuse of these drugs.

EXEMPT NARCOTIC PREPARATIONS

The Uniform Narcotic Drug Act, formulated by the National Conference of Commissioners on Uniform State Laws and approved by the House of Delegates at the Milwaukee session in 1933, provides in section 8 that certain preparations containing narcotics in small quantities may be sold without prescriptions; that is, preparations that contain in 1 fluidounce or, if a solid or semisolid preparation, in 1 avoirdupois ounce (a) not more than 2 grains of opium, (b) not more than 1/4 grain of morphine or any of its salts, (c) not more than 1

grain of codeine or any of its salts, (d) not more than $\frac{1}{8}$ grain of heroin or any of its salts and (e) not more than one of the drugs named.

The United States Commissioner of Narcotics has submitted to the Bureau a proposed amendment to this section that contemplates, essentially, that, with the exception noted below, preparations now exempt under the act may be sold only on prescription. The exemption relates to preparations containing in 1 fluidounce or, if a solid or semisolid preparation, in 1 avoirdupois ounce, not more than 1 grain of codeine or any of its salts. The Commissioner of Narcotics presents the following reasons for the suggested amendment:

Section 8 of the Uniform Narcotic Drug Act in its present form exempts from the general requirements of that law preparations which contain certain small portions of narcotics, putting all other preparations in the prescription class. This provision may now be deemed too liberal in view of existing world conditions. Our supply of opium and coca leaves is imported, and, as a consequence, at this time every effort should be made to conserve the quantity on hand for legitimate medical purposes. Recently, persons addicted to the use of narcotics who do not have a medical need therefore have had increasing difficulty in obtaining a supply of narcotics from illicit sources. As a result, they have turned to druggists and are obtaining their narcotic dosage through the purchase of narcotic preparations conditionally exempted from the operation of the Uniform Act by section 8 thereof. Not only have they been obtaining these preparations ordinarily used internally (such as paregoric) but they have also been obtaining narcotic preparations prepared for external use only and have been removing the narcotics therefrom for internal use to gratify addiction. A preparation known as "Lead and Opium Wash" is being procured for such a purpose at the present time.

If the proposed amendment is adopted it should have the effect of conserving the supply of opium and opium derivatives on hand, as well as drastically reducing the possibility of sale of the narcotic-containing preparations for abusive use.

The Commissioner states that codeine preparations generally speaking are not considered susceptible of abusive use from the standpoint of gratification of narcotic drug addiction.

If there exists in the Uniform Narcotic Drug Act a loophole through which addicts are now able to satisfy their addiction by using preparations included in the so-called exempt class, it would seem that that loophole should be closed. It may be pointed out that the commissioner has already taken steps looking toward the amending of the narcotic laws of the several states along the lines suggested by his proposed amendment. Legislation to effect this result is pending, at the time that this report is written, in seventeen states. The proposed amendment has already been enacted in Tennessee.

COURT DECISIONS OF MEDICAL INTEREST

The Report of the Committee on Medicolegal Blood Grouping Tests, adopted by the House of Delegates in 1937, was cited in a case arising in the District of Columbia as sufficient authority to establish the scientific soundness of blood grouping tests in cases of disputed paternity. This case involved the paternity of a baby born in wedlock. The trial court issued an order requiring the husband, wife and child to submit to blood grouping tests and this order was affirmed by the United States Court of Appeals for the District of Columbia, the court saying, in part:

The value of blood grouping tests as proof of nonpaternity is well known. On this point it is enough to cite the report of the American Medical Association's Committee on Medicolegal Blood Grouping Tests, which shows that although such tests cannot prove paternity, and cannot always disprove it, they can disprove it conclusively in a great many cases provided they are administered by specially qualified experts. . . . Three eminent scientists, Drs. Ludvig Hektoen, Carl Landsteiner and Alexander S. Wiener, composed the committee. Their report is based on their own extensive experiences and on the literature of the subject. Their data comprise thousands of tests here and abroad.

As pointed out in the Report of the Committee on Medicolegal Blood Grouping Tests, two states, New York and Wisconsin, had at that time, 1937, passed laws specifically authorizing courts to require submission to blood grouping tests in cases of disputed paternity and providing for the admissibility in evidence of the results of such tests. Since that time, similar laws have been enacted in Maine, New Jersey and Ohio. All these laws provide that evidence of the results of such blood grouping tests will be admissible only when such tests definitely disprove the paternity of the putative father.

The Supreme Court of Florida, in an opinion handed down on Sept. 20, 1940, held that if a person undertakes to cure those who search for health and who are, because of their

plight, more or less susceptible of following the advice of any one who claims the knowledge and means to heal, that person cannot escape the consequences of his gross ignorance of accepted and established remedies and methods for the treatment of diseases from which he knows his patients suffer, and, if his wrongful acts, positive or negative, reach the degree of grossness, he will be answerable to the state in a manslaughter prosecution if the patient dies as a result of the treatment. This case involved a chiropractor who undertook to treat the infected foot of a patient suffering from diabetes. The chiropractor, it was alleged, knowing that the patient had diabetes, advised against the continued use of insulin and the patient died.

Several cases decided during the year involved the scope of osteopathic practice. In Kansas and Georgia, osteopaths were denied the right to register under the Harrison Narcotic Act on the ground that their state licenses did not authorize them to use narcotics. In another Georgia case, the Supreme Court of that state held that a license to practice osteopathy did not authorize the holder to engage in the practice of optometry. In Florida the right of the governing board of a municipal hospital located in Miami to deny to osteopaths the right to practice in the institution was upheld. An intermediate appellate court in Pennsylvania, in a three to two decision, held that an osteopath was a "licensed physician" within the meaning of the state narcotic act and for that reason entitled to use narcotics. An appeal to the Supreme Court of Pennsylvania was denied. In Ohio the Supreme Court held that an osteopath was a "licensed physician" within the meaning of the state law defining eligibility for the office of coroner.

An important case arose in Pennsylvania, involving the right of the unions to unionize hospital employees. Apparently, attempts were made to form a union among hospital employees which were opposed by the hospitals involved. The unions appealed to the Pennsylvania Labor Relations Board, charging unfair labor practices on the part of the hospitals. The matter came before the Court of Common Pleas of Dauphin County when the hospitals filed a bill for an injunction to restrain the Labor Relations Board and the unions from proceeding with the plans under considerations. The lower court granted the injunction and the defendants appealed to the Supreme Court of Pennsylvania, which in a per curiam decision affirmed the decree of the court below, a decree referred to by the supreme court as "comprehensive." The lower court, in reaching its decision, held that a hospital neither is an industry nor does it engage in a trade and that therefore such an institution does not come within the purview of the laws of Pennsylvania relating to labor disputes generally. Furthermore, the court said that it had not been the custom in the past to unionize hospitals. The effect of unionization and attendant efforts to enforce demands would involve, the court pointed out, results far more sweeping and drastic than mere property rights. The question of profit for the employer or wages for the employee are not alone involved. It is not merely a matter of suspending operations, ceasing work and stopping production, such as might be true in a steel mill or automobile factory; it is a question of protecting the health, safety and, in many cases, the very lives of those persons who need the service a hospital can render. This decision constitutes a most important contribution to judicial literature.

MODEL VITAL STATISTICS ACT

The United States Bureau of the Census has for several years been engaged in the formulation of a draft of a model vital statistics act suitable for enactment by the several states. Several drafts have been prepared, the latest of which was considered at a meeting of the National Conference of Commissioners on Uniform State Laws in Philadelphia, Sept. 7, 1940. As a result of that consideration the draft was revised and the conference then adopted the following resolution:

Be it resolved by the National Conference of Commissioners on Uniform State Laws, at its fiftieth annual conference held in Philadelphia on the 7th day of September 1940, that the Model Vital Statistics Act has been prepared and has been tentatively approved for final adoption by the conference, but that the same lie over for a year for further study of detail by the conference and its committee; and that pending final adoption by the conference this act be used as a basis of any intervening legislation on the subject.

Further consideration, it is assumed, will be given the draft. The Board of Trustees has designated the former Director of the Bureau of Legal Medicine and Legislation as the representative of the Association to collaborate in the completion of the draft.

CADAVERS FOR TEACHING PURPOSES

In Illinois an act was passed in 1885 providing that dead bodies that otherwise would be buried at public expense are to be delivered to any physician or surgeon or to any medical college or school, public or private, on his or their request, to be used for advancement of medical science. This act is similar to the acts obtaining in a number of states and is commonly referred to as the anatomical act. The duties of embalming and distributing cadavers obtained through the operation of the foregoing act are discharged by an association of medical schools known as the Demonstrators Association of Illinois.

A steady decline during the last several years in the number of cadavers that have been made available under the Illinois anatomical act has caused the Demonstrators Association concern, and in January of this year the Bureau was approached in the hope that some means might be found to remedy the situation. It was pointed out that the number of available cadavers had decreased from 695 during the fiscal year 1937 to 599 for the fiscal year 1940 and that it was anticipated that this downward trend would continue. This shrinkage in the number of cadavers, it is said, has been due, in the main, to the fact that relief funds have provided means for burial of many bodies that otherwise would be distributable under the anatomical act. Since under that act the only cadavers that are available to the Demonstrators Association are those to be buried at the expense of the state, burial grants from relief funds would necessarily seem to be an important factor in the situation that has developed.

To obtain a more general picture of conditions, the Bureau undertook a survey of the situation in all the states. That survey is under way at the time this report is being prepared. Sufficient data have already been assembled, however, to indicate clearly that the described conditions in Illinois are by no means exceptional; many other states are experiencing the same shortage of cadavers for teaching and other scientific purposes, and that shortage is attributed largely to the use of relief funds to bury bodies.

What solution, if any, can be found to halt this trend is not readily apparent. The survey will be completed and the accumulated data will be made available as a basis for further consideration of this problem. Basically, it would seem to be a problem of medical education which does not fall within the ambit of the normal activities of the Bureau.

CONSULTATION SERVICE BY MAIL

In 1939 a Pennsylvania law was passed requiring an applicant for a marriage license to submit a statement from a duly licensed physician of the commonwealth certifying that the applicant is not infected with syphilis or, if infected, is not in a stage of the disease which is likely to become communicable. Any person having been denied such a statement may appeal to the department of health for a review of his case, and the department may, after appropriate investigation, issue or refuse to issue a certificate in lieu of the required physician's statement. To facilitate the review of such a case on appeal, the department of health proposed to utilize the facilities of the Institute for the Control of Syphilis at the University of Pennsylvania. This institute was to be supplied with a statement of facts embodying the history of the applicant's case, his present physical condition, the results of serologic tests and other pertinent information. Solely on the basis of this statement, it was proposed, the institute would advise the department of health what action to take on the appeal. It was planned, too, to make the services and facilities of the institute available to licensed physicians throughout the commonwealth for purpose of consultation.

Before this plan was put into operation, the department of health submitted it to the Pennsylvania Department of Justice, asking specifically whether the director or any individual member of the institute would incur civil liability "for giving advice by correspondence regarding the care of, or prescribing

treatment for, a patient he has never seen or examined, if the advice actually results in unfavorable or injurious consequences to the person regarding whom it was given." The Department of Justice of Pennsylvania, in a well reasoned opinion, answered the submitted question in the affirmative. Consultation among physicians, the opinion pointed out, is common practice but almost invariably the consultant is afforded the opportunity to and does examine the patient before making a diagnosis or suggesting a course of treatment, and to follow any other practice is to depart from the accepted procedure. The opinion referred to the fact that the provisions of the Principles of Medical Ethics of the American Medical Association having to do with consultations obviously contemplate a personal relationship based on physical examination by the consultant, and the Judicial Council of the Association has repeatedly condemned as unethical the physician who without seeing the patient attempts to diagnose and prescribe treatment by mail. A consultant who does not personally confer with and examine the patient, in the opinion of the department, accepts at his own peril statements and reports made to him by the attending physician, and to hold otherwise would be to relieve the consultant of his burden to exercise the due care and diligence required of him by law, "due care" contemplating and requiring a diligent physical examination of the patient. The department concluded, therefore, that the members of the institute would be liable for damages in an action for malpractice "for making a diagnosis of, or prescribing treatment for, a patient they have never seen or examined, if such diagnosis or advice actually results in injurious consequences to the person regarding whom it was made or given."

The Bureau collaborated with the Department of Justice of Pennsylvania in its study of the problem submitted to it by the department of health.

FEDERAL LEGISLATION

Seventy-Sixth Congress.—At the New York session the House of Delegates instructed the Bureau to continue its efforts to have clarified some of the uncertainties in the Wagner-George hospital construction bill then pending in the Congress. This was done. The report adopted by the House of Delegates with respect to the bill was formally presented to the Committee on Interstate and Foreign Commerce, and that committee was urged to give consideration to the recommendations contained in that report, if the bill was to be advanced further along its legislative course. No action was taken by the committee on the bill, however, and it died when the Seventy-Sixth Congress automatically expired.

Other measures that met a similar fate included the Wagner national health bill, the Mead hospital construction bill, the so-called Capper-Epstein health insurance bill and the Tolan proposal to authorize chiropractors to treat beneficiaries of the United States Employees' Compensation Act. A hearing was held on the bill last mentioned, at which the opposition of the Association to its enactment was presented. A detailed listing of other bills that failed of enactment would unduly and perhaps unnecessarily extend this report. A reference to the more important measures, however, may be found in an editorial published in *THE JOURNAL*, Jan. 11, 1941. Suffice it here to say that no measure of primary medical importance was enacted by the Congress between the last meeting of the House of Delegates and the expiration of the Congress.

Seventy-Seventh Congress.—President Roosevelt in his annual message to the new Congress said that "we should widen the opportunities for adequate medical care." In his end of the year message to the American people, Federal Security Administrator Paul V. McNutt said, in part:

In time of peace, health is economy; the Public Health Service has impressed America with the tremendous waste involved in illness and premature death. But, in preparing a nation for defense, health has become a more acute problem; for health is strength. Health keeps aircraft pilots at their controls, gunners at their guns, workers on their jobs; and healthy homes maintain civilian morale. The great increases in public health facilities developed as the result of the Social Security Act and the Venereal Disease Control Act enable us to start far ahead of where we found ourselves in 1917. But in industrial hygiene, venereal disease control, building positive health through better nutrition, it is the normal agencies of the public administration that will take the load. There must be hospital and treatment facilities in every community sufficient to meet the needs.

Shortly after the Congress convened, Senator Wagner publicly announced that a new bill was being formulated to make effective a national health program. As outlined by Senator Wagner, this bill will provide for cooperation between the federal and state governments in construction of hospitals, in the payment of compensation for disability wage losses, in expansion of maternal, infant, child hygiene and welfare services, in general public health service and in general medical care. There were announcements, too, of a proposed bill to provide federally financed health care to every worker in essential defense activities. It was estimated that the plan would embrace, at the start, about ten million persons and that the government would pay the cost of such medical care to be rendered "probably" by private practitioners, "thus avoiding any controversy over socialized medicine."

The Social Security Board in its report for 1940 reiterates endorsement "of the goals and principles" proposed in the Report on National Health Prepared by the Interdepartmental Committee to Coordinate Health and Welfare Activities.

These and other similar statements forecast legislation that will require careful consideration.

Federal Legislative Bulletin.—Beginning with the Seventy-Seventh Congress, the Bureau inaugurated a Federal Legislative Bulletin service for the purpose of supplying the several state associations with detailed information concerning bills of medical interest in Congress. These bulletins are issued monthly and copies are sent to the president, secretary and chairman of the legislative committee of each state association. In addition, the Bureau makes available to each state association, within certain limits, additional copies of the bulletin so that a wider distribution of the contents of such bulletins may be made in each state, if that is desired. It is hoped that this informational service will fill a definite need.

Among the bills of medical interest that are before the Congress for consideration, those noted herein seem to merit brief references:

Industrial Diseases.—Several bills have been introduced relating to industrial health. S. 193, introduced by Senator Murray, Montana, and pending in the Senate Committee on Education and Labor, provides for a federal appropriation in such an amount as the Secretary of Labor may deem necessary to be utilized in making grants to states to enable them to make more adequate provision for compensation for disability or death of workers from silicosis or other dust diseases. Under this bill, grants will be made by the Secretary of Labor to states whose plans have been approved by that federal official. S. 509, also introduced by Senator Murray and pending in the Senate Committee on Education and Labor, relates to the control and prevention of industrial conditions hazardous to the health of employees. This bill charges the Secretary of Labor with the responsibility of administering it, and all state plans must be approved by that official. A state plan, among other things, must provide for its administration by the state labor department or other agency charged with the administration of the general labor laws of the state. Another bill, S. 955, introduced by Senator Guffey, Pennsylvania, would authorize the Secretary of the Interior to make annual inspections and investigations in coal mines to obtain information relating to health and safety conditions, accidents and occupational diseases therein. It has been favorably reported by the Senate Committee on Mines and Mining, and a companion House bill, H. R. 2082, has passed the House of Representatives.

Tuberculosis.—Three bills are pending having for their objective the better control of tuberculosis. S. 195, introduced by Senator Murray, Montana, is pending in the Senate Committee on Finance, and a companion bill, H. R. 3492, introduced by Representative Kilday, Texas, is pending in the House Committee on Interstate and Foreign Commerce. This bill proposes to aid states, counties, cities, health districts and other political subdivisions to establish, extend and improve measures for the prevention, treatment and control of tuberculosis, including the provision of facilities for sanatorium and other care for persons with tuberculosis and for the making of studies, investigations and demonstrations. State plans must be approved by the Surgeon General of the Public Health Service. Federal appropriations would begin at \$7,750,000 for the first fiscal

year, \$33,500,000 for the second year, and \$37,000,000 for the third year. For each fiscal year thereafter such sum as may be necessary will be authorized, with the limitation that after the fiscal year 1946 the federal appropriations may not exceed \$17,500,000.

H. R. 70, introduced by Representative Elliott, California, is pending in the House Committee on Interstate and Foreign Commerce. It relates to the prevention and control of tuberculosis among migrants.

The other bill, H. R. 3463, was introduced by Representative Voorhis, California, and is pending in the House Committee on Interstate and Foreign Commerce. This bill proposes two things. First, it provides for loans to states, counties, cities and other political subdivisions for the construction of tuberculosis hospitals and for their maintenance for a period of not more than four years. These loans would be made from federal appropriations of \$25,000,000 for the fiscal year ending June 30, 1941, \$50,000,000 for the fiscal year ending June 30, 1942, and \$100,000,000 for each of the ten fiscal years thereafter. Second, additional money would be made available for grants-in-aid in the prevention and control of tuberculosis. It is contemplated that free diagnostic and treatment facilities will be provided by all health departments and clinics receiving funds under the act (1) for the diagnosis and emergency treatment of any patient referred by a private physician either for continued treatment or for consultative or diagnostic advice and opinion and (2) for any patient unable to afford private medical care. If and when tuberculosis ceases to be a national problem, the bill provides such physical equipment and facilities as the federal government may have acquired by virtue of the operation of the bill will thereafter be utilized in the control of cancer or other major health hazards.

Cancer.—Representative Rogers, Massachusetts, proposes by H. R. 1007, pending in the House Committee on Interstate and Foreign Commerce, to make available a federal appropriation for the first year of operation of the bill in the amount of \$2,300,000 and thereafter such sums as may be necessary to enable the Public Health Service to assist states, counties, cities or other political subdivisions to extend and improve measures through public and private institutions and organizations for the diagnosis, treatment and control of cancer, including the provision of hospital, diagnostic, clinic and other facilities. State plans must be approved by the United States Public Health Service. To the extent that facilities may be available, the bill proposes, not to exceed one hundred persons suspected of having or known to be suffering from cancer may be cared for in hospitals of the United States Public Health Service for purpose of diagnosis, treatment and clinical study.

Dental Diseases.—Senator Murray, Montana, has introduced a bill, S. 194, proposing to authorize the Surgeon General of the Public Health Service to (1) conduct researches, investigations, experiments and studies relating to the cause, diagnosis and treatment of dental diseases; (2) assist and foster similar research activities by other agencies, public and private, and (3) promote the coordination of all such researches and activities and the useful application of their results, with a view to the development and prompt widespread use of the most effective methods of prevention, diagnosis and treatment of such diseases. The bill proposes a federal appropriation of \$75,000 for the fiscal year ending June 30, 1942, and that for the five succeeding fiscal years such sum shall be increased \$10,000 each year. The bill is pending in the Senate Committee on Education and Labor.

National Physical Fitness Institute.—Senator Walsh, Massachusetts, has introduced a bill, S. 797, for the establishment of a National Physical Fitness Institute. The bill is pending in the Senate Committee on Education and Labor and is similar to a bill introduced by the same author in the Seventy-Sixth Congress, S. 4179. With respect to the former bill, it was stated that it was sponsored by Frederick Rand Rogers, Ph.D., of Boston, whose Physical Fitness Index Test was commented on, unfavorably, in the Queries and Minor Notes department of *THE JOURNAL*, May 6, 1939, page 1852. The pending bill proposes to create in the Federal Security Agency a National Physical Fitness Institute with authority (1) to select, prepare and conduct research with respect to tests and testing instru-

ments for the purpose of testing physical fitness and with respect to follow-up procedures, forms of reports, and methods of cooperating with agencies engaged in medical and health work, for the purpose of conserving and increasing the physical fitness of the American people; (2) to conduct research to determine the most efficient and practical methods of conserving and increasing physical fitness; (3) to train specialists in the work of conserving and increasing physical fitness; (4) to prepare reports and bulletins with respect to the conservation and increase of physical fitness for use by organizations and the general public; (5) on request, to investigate the needs of organizations and industries for, and, to the extent possible with its personnel, to cooperate with such organizations and industries in providing physical fitness services for their members and employees, and (6) to cooperate with departments and other agencies of the government in programs designed to conserve and increase the physical fitness of their officers and employees.

Deferment Under the Selective Service and Training Act of Medical Students, Interns and Residents.—Senator Murray, Montana, proposes by S. 783 to amend the Selective Training and Service Act of 1940. The bill is pending in the Senate Committee on Military Affairs and was apparently introduced as a substitute for a former bill introduced by the same author, S. 197. The new bill provides, among other things, that (1) students who are preparing for the degree of doctor of medicine or bachelor of medicine at medical schools, (2) students who are preparing for the degree of doctor of dental surgery or doctor of dental medicine at dental schools, (3) hospital interns and resident physicians and surgeons who are graduates of medical schools and are eligible as such graduates for the examinations given by the National Board of Medical Examiners or who were so eligible at the time of their graduation from such medical schools, (4) hospital dental interns and resident dentists who are graduates of schools of dentistry or hold degrees of doctor of dental surgery or doctor of dental medicine, and (5) teachers at medical and dental schools shall be exempt from training and service, but not from registration, under the Selective Training and Service Act.

Any such medical or dental student, hospital intern or resident physician, surgeon or dentist, or medical or dental school teacher, who is a member of a reserve component of the land or naval forces of the United States, may not, if the bill should be enacted, be ordered or called to active duty or into active service in any of such forces, except in time of war. Any person already called into service who if the pending bill had been enacted would have been exempt from such service, shall, it is proposed, be discharged on his own request.

This bill further provides that any individual selected for training and service who is a graduate of a medical school and is eligible as such a graduate for examination given by the National Board of Medical Examiners or who was so eligible at the time of his graduation, or who is a graduate of a school of dentistry or holds a degree of doctor of dental surgery or doctor of dental medicine and who holds a license to practice medicine, surgery, or dentistry in any state, territory or possession and is engaged in such practice at the time of his selection and whose physical and mental fitness for such training and service has been satisfactorily determined, shall, in lieu of induction into the land or naval forces of the United States, be commissioned an officer in the Medical Department Reserve, Officers' Reserve Corps, and ordered into active military service as provided by law.

Eligibility for Appointment as Medical Officers in Army and Navy.—Representative McCormack, Massachusetts, proposes by H. R. 3571, pending in the House Committee on Military Affairs, that no individual who is licensed to practice medicine under the laws of any state, territory or the District of Columbia shall be ineligible for appointment, or for examination for appointment, as a medical officer in the active or reserve components of the military or naval forces of the United States solely by reason of any rating or classification of the medical school from which such individual was graduated. This bill is identical with a bill introduced by Representative McCormack in the Seventy-Sixth Congress, H. R. 10484. With respect to the former bill, Representative McCormack stated on the floor

of the House that in introducing the bill he had in mind the graduates of the Middlesex University School of Medicine of Boston.

Appointment of Dietitians and Physical Therapy Aides in the Army.—S. 839, introduced by Senator Sheppard, Texas, and pending in the Senate Committee on Military Affairs, and H. R. 3790, introduced by Representative May, Kentucky, and pending in the House Committee on Military Affairs, propose to authorize the Secretary of War to appoint in the Medical Department of the Army such number of female dietitians and female physical therapy aides as he may determine to be needed in the administration of laws providing for the hospitalization in army hospitals of officers, warrant officers, and enlisted men of the Regular Army. These bills provide for the grades to be allocated to such dietitians and physical therapy aides and for promotions to higher grades.

Chiropody Corps in the Medical Corps of the Army.—Representative Haines, Pennsylvania, by H. R. 3738, pending in the House Committee on Military Affairs, proposes to establish a Chiropody Corps in the Medical Corps of the United States Army. Original appointments will be made in the grade of first lieutenant. An officer of the corps, the bill proposes, shall be promoted to the grade of captain after three years' service, to the grade of major after twelve years' service, to the grade of lieutenant colonel after twenty years' service and to the grade of colonel after twenty-six years' service. It is contemplated that the Surgeon General of the Army shall appoint from time to time qualified officers in like number to that established by law for the Dental Corps, and such officers shall have the rank, pay, promotion and allowances as well as the retirement provisions of officers of corresponding grades in the Dental Corps. Provision is made, too, for the establishment of a Chiropody Reserve Corps.

Construction of Hospitals.—Representative Fulmer, South Carolina, has introduced a bill, H. R. 584, proposing to promote the national health and welfare through appropriation of funds for the construction of hospitals. This bill is identical with the Wagner-George hospital construction bill as it was introduced in the Seventy-Sixth Congress. The bill is pending in the House Committee on Interstate and Foreign Commerce.

Chiropractors and the United States Employees' Compensation Act.—Representative Tolan, California, has reintroduced his bill to give chiropractors the right to treat federal employees entitled to the benefits of the United States Employees' Compensation Act. This bill, H. R. 1052, is pending in the House Committee on the Judiciary and is identical with a bill introduced in the Seventy-Sixth Congress by the same author.

Federal Department of Health.—The establishment of a federal department of health is proposed in a bill introduced by Representative Pfeifer, New York, H. R. 1791. At the head of this department, it is contemplated, will be a Secretary of Health who will be a "member of the medical profession." There will be transferred to this department the Food and Drug Administration, the Bureau of the Census, Division of Vital Statistics, the Freedmen's Hospital and St. Elizabeths Hospital, the Children's Bureau, and all functions of the United States Public Health Service, Bureau of Narcotics, and the Health Department of the District of Columbia. The President will be authorized by executive order to transfer to this department the whole or any part of any bureau, service or other agency of the government primarily engaged in fostering and promoting health and sanitation. This bill is pending in the House Committee on Expenditures in the Executive Departments.

Compulsory Health Insurance.—The perennial health insurance bill sponsored by the American Association for Social Security, otherwise known as the Epstein bill, has been introduced in the Congress by Senator Capper, Kansas, as S. 489. It is pending in the Senate Committee on Education and Labor and proposes a federal appropriation of \$50,000,000 for the fiscal year ending June 30, 1941, and thereafter a sum sufficient to carry out the purposes of the act, to induce states to embark on a combined program of compulsory and voluntary health insurance. The bill proposes to engraft the scheme on the Social Security Act, and the Social Security Board will be charged with the duty of approving state plans.

National Preparedness Act of 1941.—Under the sponsorship of the American Association for Health, Physical Education and Recreation, Representative Schwert, New York, since deceased, introduced H. R. 1074, to enact a "National Preparedness Act of 1941 for the improvement of physical and social fitness." It is pending in the House Committee on Education. The bill proposes federal appropriations totaling eventually \$200,000,000 a year. Its provisions will be administered by the Office of Education of the federal government and by state educational authorities. It contemplates the development of (a) plans for school programs of physical education, instruction and guidance in healthful living and wider recreational use of school facilities and (b) plans for the establishment of school camps.

A plan for a school program, the bill proposes, must include (1) programs of physical education to develop physical fitness and for the prevention and correction of physical deficiencies; (2) instruction and guidance in health and safety for children, youth and adults of such a nature as to help individuals safeguard and promote their own health and contribute to the health of their family and community; (3) special physical education, health instruction and guidance, and recreational activities for handicapped pupils; (4) supervision to insure safe and sanitary school conditions and programs and procedures permitting healthful school living, and (5) provision of adequate personnel and direction of the educational program in the wider use of school facilities to serve the recreational needs of children, youth and adults and for the improvement of fitness of out of school youth, men aged 21 to 35, and other adults necessary to home defense and defense industry occupations. Plans for the operation of school camps must include, among other items, opportunities for simple, vigorous living to promote physical fitness through appropriate body-building activities, proper nutrition, health instruction and rest.

Advisory councils are to be set up to advise the Commissioner of Education and to advise the local education authorities. These councils, apparently, are to be purely advisory and are to be appointed by the United States Commissioner of Education and by the state educational authorities, respectively. The bill contains a most unusual provision to the effect that the scope of the activities to be carried on under it may be extended in any state apparently without any limit whatever if the legislature of that state decrees.

Contract Surgeons of the Spanish-American War.—Senator McNary, Oregon, by S. 617, pending in the Senate Committee on Pensions, proposes among other things to provide so-called service pensions for contract surgeons of the Spanish-American War. Under an act approved May 1, 1926 veterans of the Spanish-American War, and female contract nurses of that war, are entitled to pensions based on service and age alone, without reference to disabilities incurred in actual service. Contract surgeons, on the other hand, are now entitled to pensions only if they were disabled in service. This bill, therefore, seeks to do away with this illogical and unjust discrimination against contract surgeons.

Scientific Organizations and the Social Security Act.—Senator Walsh, Massachusetts, has introduced a bill, S. 670, pending in the Senate Committee on Finance, to bring within the old age and survivors insurance benefits provisions of the Social Security Act employees of any corporation, community chest, fund or foundation, organized and operated exclusively for religious, charitable, scientific, literary or educational purposes, or for the prevention of cruelty to children or animals.

Health in Areas Adjoining Military and Naval Reservations and Plants Engaged in Defense Work.—H. R. 3204, making additional appropriations for the fiscal year 1941 urgently required for the Work Projects Administration and certain other federal agencies, has been enacted into law. One section of this law provides a federal appropriation of \$525,000 for the fiscal year ending June 30, 1941, to enable the United States Public Health Service to assist state and local health authorities in health and sanitation activities in (1) areas adjoining military and naval reservations, (2) areas where there are concentrations of military and naval forces, (3) areas adjoining government and private industrial plants engaged in defense work and (4) private industrial plants engaged in defense work. The

money will be available, too, to provide emergency health and sanitation services in government industrial plants engaged in defense work and in areas adjoining military and naval reservations outside the United States.

Another bill, H. R. 3570, introduced by Representative Latham, Texas, proposes an appropriation of \$150,000,000 to provide additional community facilities made necessary by national defense activities. This money will be utilized, in accordance with such directions and regulations and on such terms and conditions as may be prescribed or approved by the President, (a) to make loans or grants or both to public agencies for construction, rehabilitation and operation of such facilities; (b) to construct, operate, lease or sell such facilities, including the acquisition of land and the demolition, repair or alteration of existing structures where necessary, and (c) for necessary administrative expenses.

The Assistant Coordinator of Health and Welfare and Related Defense Activities appeared before the House Committee on Public Buildings and Grounds, March 4, and presented detailed information relative to the several purposes for which this federal money will be expended. It will be used, he said, to provide school facilities, for the construction of sewage and disposal systems, for the paving of streets, for the construction of community centers, for mosquito control work, for milk pasteurizing plants, for water supplies, and for medical and hospital facilities and care. Out of the total appropriation to be authorized, he said, \$25,000,000 will be used for the construction of hospitals and \$4,200,000 for the construction of clinics. In addition, annual grants of \$2,200,000 will be made for hospital care of transient indigents, \$2,800,000 for the ambulatory care of transient indigents and \$1,000,000 for hospital operation. The Assistant Coordinator said, in part:

From the standpoint of medical care, especially hospitalization, the civilian population of defense areas may be considered under two broad categories: (1) The employed or self-sustaining group, who on account of improved economic conditions in defense areas should constitute a large part of the total population, perhaps 75 per cent; (2) the dependent and medically indigent group who cannot meet the costs of major illness. About one half of this latter group will be local residents and their care should be a local responsibility. There will remain approximately one hundred and ninety thousand persons who because of residence laws are excluded from such public assistance as the community affords and for these the federal government should make necessary provisions.

In addition to accommodations for bed patients there should be facilities for ambulatory or outpatient care and for public health services. These facilities may be provided through the hospital or may be developed separately. Even in communities where bed accommodations are relatively well provided, outpatient and public health facilities may be very inadequate.

Information available indicates that roughly one million, five hundred thousand civilians will move into extracantonment and newly developed industrial areas. To provide hospital accommodations for this group will require six thousand three hundred new beds.

Approximately one hundred and twenty health center buildings are needed to provide suitable accommodations for health departments and outpatient clinics.

The House Committee on Public Buildings and Grounds had taken no action on this bill at the time this report was completed.

Tax on Alcohol Used in Medicinal Preparations.—Representative Kefauver, Tennessee, has introduced a bill, H. R. 3383, pending in the House Committee on Ways and Means, proposing to reduce from \$3 to \$2 the federal tax on each proof gallon or wine gallon when below proof of ethyl alcohol used exclusively for manufacturing medicinal preparations, flavoring extracts, flavors and for other nonbeverage purposes.

Medical Aid for Transients.—A pending bill, H. R. 161, introduced by Representative Voorhis, California, referred to the House Committee on Ways and Means, proposes to amend the Social Security Act by adding a new title under which grants may be made to the states for aid to transients. To enable each state to furnish financial assistance or other assistance, including but not limited to medical, dental and mental aid, to needy transients, the bill proposes a federal appropriation for the fiscal year ending June 30, 1942, the sum of \$10,000,000 and thereafter for each fiscal year a sum sufficient to carry out the purposes of the bill.

Veterans' Hospitals.—Several bills are pending proposing either to construct new veterans' hospitals or to enlarge existing facilities. All the bills are pending in the House Committee on World War Veterans' Legislation with the exception of a Senate

bill, which is pending in the Senate Committee on Finance. H. R. 149, introduced by Representative Tenerowicz, Michigan, proposes a federal appropriation of \$250,000 to construct, for the accommodation of 250 bed patients, an addition to the veterans' administration hospital in Dearborn, Mich.; H. R. 549, introduced by Representative Merritt, New York, proposes an appropriation of \$1,875,000 to construct a general medical-surgical veterans' hospital and domiciliary facility at Whitehall, N. Y., with a capacity of at least six hundred beds; H. R. 1421, introduced by Representative Pace, Georgia, proposes an appropriation of \$2,500,000 to construct a veterans' hospital for the southwest section of Georgia, with a capacity of at least eight hundred beds; H. R. 2245, introduced by Representative Cluett, New York, proposes an appropriation of \$4,050,000 to construct a veterans' general medical and surgical hospital and domiciliary facility in one of the counties of Rensselaer, Saratoga, Warren or Washington, in the state of New York, with a capacity of at least one thousand two hundred beds; H. R. 1633 and H. R. 2613, introduced by Representative Sheppard, California, propose an appropriation of \$500,000 to construct a veterans' hospital, primarily for treatment of diseases of the chest, in San Bernardino or Riverside County, Calif.; H. R. 2488, introduced by Representative Bradley, Michigan, proposes a federal appropriation of \$700,000 to construct a veterans' hospital, with a capacity of one hundred and fifty beds, in or near the city of Gladstone, Mich.; H. R. 2510, introduced by Representative Izac, California, proposes an appropriation of \$1,000,000 to construct a veterans' hospital, with a capacity of at least two hundred beds, in or near the city of San Diego, Calif.; H. R. 3154, introduced by Representative Rolph, California, proposes an appropriation of \$600,000 to construct a 134 bed patient capacity addition to the veterans' hospital at Fort Miley, San Francisco, and S. 970, introduced by Senator Gurney, South Dakota, proposes a federal appropriation of \$1,000,000 to construct a veterans' hospital and diagnostic center in the first congressional district of South Dakota.

Water Pollution Control.—H. R. 1110, introduced by Representative Spence, Kentucky, and H. R. 3778, introduced by Representative Mundt, South Dakota, both pending in the House Committee on Rivers and Harbors, contemplate the establishment in the United States Public Health Service of a Division of Water Pollution Control to prepare comprehensive plans for eliminating or reducing the pollution and improving the sanitary conditions of the navigable waters of the United States and streams tributary thereto. These bills provide that federal loans or grants will be made available for the construction of necessary treatment works.

Animal Experimentation.—H. R. 3871, introduced by Representative Burdick, North Dakota, provides that it shall be a misdemeanor for any person to experiment or operate in any manner whatever on any living dogs in the District of Columbia, for any purpose other than the healing or curing of the dog. Any person convicted of a violation of this prohibition will be subject to a fine of not less than \$100 nor more than \$500, or imprisonment for not less than three months nor more than one year, or both such fine and imprisonment. This bill is pending in the House Committee on the District of Columbia.

STATE LEGISLATION

During the year the Bureau, as it has done in past years, followed the trend in state legislation of medical interest. Information that seemed of importance was transmitted promptly to the president, the secretary and the chairman of the legislative committee of the state medical society of the state concerned. Abstracts of bills of medical interest were prepared for publication in THE JOURNAL so that physicians generally might be promptly advised concerning legislative developments in their own states. At the close of the calendar year a summary of legislation of interest to physicians considered by state legislatures in 1940 was prepared, and this summary was published in THE JOURNAL, April 5, 1941.

During 1940 the legislatures of Kentucky, Louisiana, Mississippi, New Jersey, New York, Rhode Island, South Carolina and Virginia met in regular session. Alabama also met in regular session because its legislature, which met in regular session in 1939, recessed to convene for a few days in 1940.

Special legislative sessions were held in Arizona, California, Illinois, Louisiana, Maine, Missouri, Nebraska, New Mexico, New York, Ohio, Pennsylvania and Vermont. On the whole, comparatively little legislation of medical interest was considered in the sessions referred to, the sessions being, from a medical point of view, the lightest observed during the period of twelve years in which the Bureau has undertaken to survey state legislative endeavors and accomplishments. Reference will be briefly made to some of the more important laws enacted by several states.

Medical and Hospital Service Plans.—A law was enacted in New Jersey authorizing the formation of medical service corporations, to operate on a prepayment basis nonprofit medical service plans whereby stated medical services and care may be rendered at the expense of the corporations to subscribers to such plans and to their dependents. This law contemplates that the subscriber to any plans operated by the medical service corporation shall have available the services of the physician of his own choice and that the corporation itself will pay that physician. A roughly similar law was enacted in Virginia except that under the Virginia law the plans to be offered subscribers may comprehend medical services alone, hospital services alone or both medical and hospital services. Such plans may be offered (1) through the medium of a nonprofit corporation, (2) by a group of physicians representative of the medical profession in the community or territory in which the service contracts are offered or (3) by a particular hospital or combination of hospitals.

Free Medical Care for Recipients of Old Age Pensions.—The electorate of Washington adopted in the November general election an initiative measure cited as "Senior Citizens Grants Act," which authorizes grants of \$40 monthly to persons of 65 or over without adequate resources, as defined in the measure. The measure also requires that such persons shall be provided at the expense of the state "medical, dental, surgical, optical, hospital and nursing care by a doctor of recipient's own choosing."

Prenatal and Antepartum Examinations.—The Kentucky law prohibiting the issuance of a license to marry unless each party to the proposed marriage presents a physician's certificate as to freedom from all venereal diseases was so amended in 1940 as to require the certificate to state only that the party is free from any stage of syphilitic infection which is or is likely to become communicable. A new Virginia law conditions the issuance of a license to marry on a presentation by each party of a certificate signed by a licensed physician that as to such person such tests and examination have been made and such medical history obtained as to enable the physician to determine whether or not there is evidence of syphilis, but the certificate is not to disclose any medical findings. The examining physician when he finds indication as to syphilis in a particular person must inform that person and the prospective marital partner as to the result of his findings and the possibility of transmitting the disease to the other party and to their children. The presence of syphilis, however, is not to be a legal bar to the marriage, but if the parties marry they are deemed to have agreed to take such treatments and such precautions as may be prescribed by the state health commissioner.

Another new Kentucky law requires a physician or other person legally permitted to attend pregnant women to take or cause to be taken a specimen of blood for serologic tests for syphilis as soon as engaged to attend the woman. A new Louisiana law imposes a similar duty on physicians and other persons attending pregnant women if no objection is made by the woman.

Barbituric Acid.—A law was enacted in Mississippi restricting the sale and distribution of certain barbiturates to sale or distribution on the written prescription of a licensed physician, dentist or veterinarian.

Healing Arts Practice Acts.—A basic science law was enacted in Rhode Island which will require all applicants for licenses to practice any form of the healing art in that state to demonstrate to a state board of examiners in the basic sciences a comprehensive knowledge of anatomy, physiology, pathology, chemistry and bacteriology before presenting themselves to their respective professional boards for examination and licensure.

No particularly noteworthy changes were made in 1940 in the medical practice acts of the several states. Proposals were defeated in several states to enact separate chiropractic or naturopathic practice acts. The osteopathy act of Rhode Island was amended by striking out the specific limitation with respect to the use of drugs.

COOPERATION APPRECIATED

Again the Board of Trustees, on behalf of the Bureau, wishes to express sincere appreciation for the ready cooperation received during the year from constituent associations, from component societies and from individual physicians.

Summary

Laws Regulating the Use of Barbiturates.—As of May 1, 1940 twenty-seven states had enacted laws tending to discourage the promiscuous use of the barbiturates. In twenty-five of these states, sales of such drugs are limited to sales on prescription.

Exempt Narcotic Preparations.—The Commissioner of Narcotics reports that the section in the Uniform Narcotic Drug Act dealing with the so-called exempt preparations constitutes a loophole through which addicts obtain narcotics to satisfy their craving for the drugs. He proposes an amendment to the law to end this source of supply.

Court Decisions of Medical Interest.—The Report of the Committee on Medicolegal Blood Grouping Tests was relied on by the United States Court of Appeals for the District of Columbia as sufficient authority to establish the scientific soundness of blood grouping tests in cases of disputed paternity. In Florida, an indictment of a chiropractor for manslaughter who withdrew insulin from a diabetic patient, death ensuing, was upheld. Kansas and Georgia osteopaths were denied the right to register under the Harrison Narcotic Act. In Florida, the right of the governing board of a municipal hospital to deny to osteopaths the right to practice in the institution was upheld. In Ohio and Pennsylvania, osteopaths were held to be "licensed physicians" within the meaning, respectively, of the state laws defining eligibility for the office of coroner and regulating the use of narcotics. In Pennsylvania the right of the unions to unionize hospital employees was denied.

Model Vital Statistics Act.—The United States Bureau of the Census has formulated a draft of a model vital statistics act suitable for enactment by the several states. The draft has not been given final approval by the National Conference of Commissioners on Uniform State Laws.

Cadavers for Teaching Purposes.—A decline during the last several years in the number of cadavers that have been made available under the anatomical acts of the several states is causing concern. The decline is attributed, in many instances, to the fact that relief funds have provided means for burial of many bodies that otherwise would be distributable under the anatomical acts.

Consultation Service by Mail.—The Department of Justice of Pennsylvania rendered an important decision involving a proposed plan to utilize the facilities of the Institute for the Control of Syphilis at the University of Pennsylvania for consultations by mail in connection with the operation of the state laws relating to premarital examinations and to the control of the venereal diseases. The opinion discussed both the ethical character of the proposed plan and the personal liability of the consultants.

Federal Legislation.—No measure of primary medical importance was enacted by the Seventy-Sixth Congress between the last meeting of the House of Delegates and the expiration of the Congress. Statements emanating from official governmental sources forecast legislation of medical import that will require careful consideration. Beginning with the Seventy-Seventh Congress, the Bureau

inaugurated a Federal Legislative Bulletin service to supply the several state associations with detailed information concerning bills of medical interest in Congress.

Federal participation, financially and otherwise, in plans for the control of industrial diseases, tuberculosis, cancer and dental diseases is proposed by bills pending in Congress.

The establishment of a National Physical Fitness Institute in the Federal Security Agency and the enactment of a National Preparedness Act of 1941 for the improvement of physical and social fitness are contemplated in other bills.

Bills are pending dealing with the deferment of medical students, interns and residents from training and service under the Selective Training and Service Act and with the granting of commissions to physicians. One bill proposes in effect to make eligible for appointment as medical officers in the Army and Navy graduates of unapproved medical schools.

Other bills provide for the appointment of female dietitians and female physical therapy aides in the Army and for the creation of a Chiropody Corps in the Medical Corps of the Army.

The construction of hospitals, the granting of permission to chiropractors to treat beneficiaries of the United States Employees' Compensation Act, the establishment of a federal department of health, inducements to states to embark on combined programs of compulsory and voluntary health insurance, the granting of pensions to contract surgeons of the Spanish-American War, broadening the base of the Social Security Act so as to bring within the old age and survivors insurance benefits the employees of scientific and certain other organizations, the improvement of health in areas adjoining military and naval reservations and plants engaged in defense work, medical aid for transients, a reduction of the tax on alcohol used in medicinal preparations, the construction of additional veterans' facilities and the creation in the United States Public Health Service of a division of water pollution control are contemplated by pending bills.

A pending proposal would make illegal any operation or experiment performed on a living dog in the District of Columbia for any purpose other than the healing or curing of the dog.

State Legislation.—A law was enacted in New Jersey authorizing the formation of medical service corporations, and a somewhat similar law was enacted in Virginia. In the state of Washington, an initiative measure was adopted providing medical, dental, surgical, optical, hospital and nursing care for recipients of senior citizens' grants.

The Kentucky premarital examination law was amended and a new antepartum examination law was passed in that state as well as in Louisiana. In Virginia a premarital examination law was enacted. A law to restrict the sale of barbiturates to sales on prescription was enacted in Mississippi, and a basic science law was enacted in Rhode Island. An amendment to the Rhode Island osteopathic act, striking out the specific limitation with respect to the prescribing of drugs, was enacted.

Bureau of Medical Economics

PREPAYMENT PLANS FOR MEDICAL CARE

The organization of prepayment plans for medical care continued to occupy a prominent place in medical economics during 1940. Although the trend in this movement was definitely in the direction of statewide arrangements sponsored by state medical societies, groups not directly connected with the organized medical profession continued to propagandize for so-called "group medical care," a misnomer sometimes called cooperative medicine. A new type of ward care contract is being sold by some group hospitalization organizations without regard to the patient's financial relationship to his attending physician. In many hospitals the attending physicians are not permitted to

charge for their services to ward patients and therefore persons who hold group hospitalization ward plan contracts usually receive both hospital and medical care for the price of the ward contract.

Still other forms of prepaid medical care are being sponsored by the Farm Security Administration and the National Youth Administration with tax funds. These federal programs are not new and are being administered for the benefit of individuals or families who become clients of one or the other of these federal agencies. The extension of the activities of these and other governmental agencies provides assistance to many individuals and indicates an increasing tendency toward the utilization of tax funds in the provision of medical care.

These trends seem to justify two definite observations: First, if voluntary, prepaid medical care is to become and continue economically and scientifically sound, laws to legalize prepaid medical care organizations and procedures should be framed with the greatest care; ethical principles and recognized standards of medical practice should be observed; actuarial data should be collected, consolidated and used as the basis of indicated modifications; expansion to include groups of the population other than employed persons—such as dependents or the agricultural population—should be made only after the most careful study, and prepayment methods of distributing medical care should be recognized as only supplementary to the private practice of medicine.

Second, the medical profession has long advocated recognition of the principle that the complete medical care of the indigent is a responsibility of the community, medical and allied professions and that such care should be organized by local governmental units and supported by tax funds.

Since the indigent constitute a large group in many communities, the necessity for state aid for medical care may arise in poorer communities and the federal government may need to provide funds when the state is unable to meet these emergencies. The medical profession believes, however, that the role of the federal government should be principally that of giving financial and technical aid, when needed, to the states in the development of sound programs to meet their own particular conditions and requirements. The development of medical care programs by federal agencies which insist on retaining administrative control creates a situation which merits the most careful consideration by the medical profession.

The profession has only partially discharged its duty by endeavoring to maintain a high degree of competence among its members. Medical standards and competence can be completely destroyed by unsound methods by which the available services are distributed. Centralization of control and premediated expediencies associated with planned fiscal policies may rapidly achieve deterioration of the quality of medical care. It should continue to be the concern of the medical profession to insist on methods of distribution as well as methods of diagnosis and therapy that will give to the people the best possible medical care.

Any method of distribution of medical services which inhibits, restrains, proscribes or obtrudes by regulation, administrative practice or fiscal arrangement the quality of medical service which could otherwise be made available to the people is dangerous to medicine and to the people it would serve.

SURVEY OF MEDICAL SERVICES AND FACILITIES FOR THE CARE OF CRIPPLED CHILDREN

At the request of Mr. Basil O'Connor, president of the National Foundation for Infantile Paralysis, and with the support of that organization, the Bureau of Medical Economics undertook early in 1940 a survey of funds now available for the care of the crippled, including those provided by the government, the individual states and various philanthropies. To insure completeness of the survey, it was necessary to compile a list of all organizations engaged in some phases of this work. From each agency included, information was obtained with regard to the scope and the nature of its program, the number of crippled children under its care and the amount of money collected for this purpose.

Five types of questionnaires were sent out—those to governmental agencies, private agencies, hospitals, county chapters of

the National Foundation for Infantile Paralysis, and diplomates of the American Board of Orthopedic Surgery.

The material was compiled on a state rather than on an organization basis. All agencies in one state directly or indirectly doing work with crippled children are included under that state heading. For example, under California a section is devoted to a description of the work done and the amount spent by the Crippled Children Services of the State Department of Public Health, the various county (organized and unorganized) chapters of the National Foundation for Infantile Paralysis, the California Society for Crippled Children and other private philanthropies.

The 1939 program of each state tax supported commission is described with regard to the scope of the work, the number of crippled children cared for, the total and average cost for such care, the number and type of cooperating agencies and the need for additional facilities.

Returns from the county Infantile Paralysis Fund organizations are tabulated by separate counties. A number of comments included in these returns are given to show the need for additional funds and facilities and possibly closer supervision of the county units with regard to the use and care of the funds collected. The questionnaires included such items as amount in reserve, number of infantile paralysis victims aided, and whether a direct case working agency was necessary to distribute funds.

The compilation of returns from the diplomates of the American Board of Orthopedic Surgery indicates the extent to which these physicians are giving their services free or on a reduced rate to crippled children case working agencies. Ninety completed questionnaires were returned. The surgeons were asked to estimate the value of their services to their indigent patients in terms of charges made in their private practice. These ninety surgeons attended in 1939 an estimated 40,068 indigent crippled children, while only 10,124 crippled children were cared for in their private practices during the same period of time.

Included also is a summary of the activities of the various Shrine Crippled Children's Hospitals.

Those affiliated agencies of the National Society for Crippled Children which made returns are described under the separate states.

GROUP MEDICAL PRACTICE

A study of group medical practice undertaken in 1940 was actually a recheck and extension of a similar study made in 1933. The purpose of the study was to learn, if possible, the rate of growth—and mortality—of medical groups, the changes, if any, in the locations, sizes, equipment, number and type of specialists and other characteristics and practices of medical groups.

Only those groups were included which had at least three physicians and which pooled their receipts and redistributed them to the members. Closed staff hospitals and diagnostic and industrial groups were excluded. The greatest growth of groups was during the five years 1919-1923 inclusive. Although it is probable that at least half of the groups established during this period have disappeared, the number still surviving is greater than those established or surviving from any succeeding five year period. It would seem that groups were established in this period in localities lacking laboratory, hospital and specialists' services and that as these institutions became more common the motive of group organization lost much of its force.

A total of three hundred and thirty-five groups, more than any previous study had indicated existed in the United States, cooperated in the study to the extent of filling out a questionnaire giving membership and other essential factors. Approximately 33 per cent of the groups had only three members, and more than half had four members or less. The average for all groups was six and two-tenths members. More than one third of the groups were "family" organizations having two or more physicians with the same surname.

Ninety-one per cent of the groups were in cities of less than 250,000 population and 55 per cent in cities of less than 25,000 population. Groups are largely concentrated in or near the Mississippi Valley and in California.

The comments from groups in twenty-one states and from members of defunct groups indicate that there is no financial advantage in group organizations and that the greatest cause of the high mortality is probably internal friction.

There were 2,093 physicians in these groups, of which 507 were specialists who were diplomates of their respective specialty boards, 387 nondiplomates who were members of some special society, and 804 who simply reported themselves as specialists. There were 395 general practitioners. Only seventeen groups reported the use of any type of prepayment contract plan for medical care. In these seventeen groups there were only eighteen physicians who were accredited specialists and only twenty-three physicians who were members of special societies, but these seventeen medical groups reported as specialists 100 of their members who had neither of the foregoing credentials. For comparison there were twenty-six groups having twelve or more members each with no system of prepayment for medical care. These included one hundred and ninety diplomates and eighty-one members of specialist societies, and only one hundred and twenty-seven "reported" specialists.

A wide variety of methods of distributing the pooled income was found, with no apparent tendency to agree on any one method.

Although the American Medical Association and its constituent societies have been charged with opposition to group practice, a search of the Proceedings of the House of Delegates of the American Medical Association for thirty-two years failed to show any action that indicated the slightest hostility to the formation of ethical and capable medical groups. The extent of the participation of group members as officials of the national and state organizations would indicate a complete absence of any such hostility.

MEDICAL PREPAREDNESS

The Bureau of Medical Economics was given the responsibility of conducting a survey of physicians for the Committee on Medical Preparedness and to assemble such other information, not easily obtainable in such a census, that would be of assistance to the Surgeon Generals of the Army, Navy and Public Health Service.

The content and arrangement of the schedule to be used in the census of physicians was approved by the Surgeon Generals of the Army, Navy and Public Health Service.

Mailing of schedules began July 5, 1940 and was completed July 16, 1940. On the first mailing, schedules were sent to the latest known address of 175,140 physicians in the continental United States and 4,878 physicians in the outlying territories and possessions. Since July 16, 4,790 new names of physicians have been added to the United States list and 306 to the outlying territory list. On Dec. 31, 1940 the total number of physicians from whom a Medical Preparedness schedule is desired was, for the United States and outlying territories and possessions, 185,114. The number of schedules that can be used will be reduced by the number of deaths among physicians during the last six months. The statistics quoted in this article can therefore be only approximate for the present.

If the number of physicians in the outlying territories and possessions are separated from those in the continental United States, the number of returns from the physicians in the United States proper on Dec. 31, 1940 was 138,320. This represents a 77 per cent return. The physicians in the outlying territories and possessions returned 1,483 schedules. This represents a 29 per cent return from the 5,184 physicians on this list.

The percentage of returns by states and corps areas shows some variations as indicated in the accompanying table.

The information on Medical Preparedness schedules cannot be easily listed or consolidated from the schedules themselves. Ease of handling of such data can be accomplished by transferring it to punch cards. Accordingly each schedule received is edited, coded and prepared for punch card operations. Before the schedules can be sent for punching, sorting and listing, the data should be complete and accurate.

During the early part of the census large numbers of schedules were incompletely or incorrectly answered. Supplementary schedules were mailed, at first to about 40 per cent of the physicians who had replied, to secure this additional or correct data. This process greatly retarded the progress of the census. However, at present the need for supplementary schedules has been materially reduced.

Of the 139,803 schedules received up to and including Dec. 31, 1940, 115,796 have been prepared for punch cards. These cards

can be sorted for any desired information, and the coding on the sorted cards can be transferred to listing sheets at the rate of eighty a minute. Listings on special sheets have already been prepared. These are only partial listings, since complete lists cannot be secured until a punch card has been made from a schedule from every known physician.

A listing of general practitioners and specialists from the first 47,000 punch cards, arranged according to specialty, indicates

Percentage of Returns of Medical Preparedness Schedules

Corps Areas and State	Schedules on Original Mailing	New Names Added	Total Schedules Mailed	Schedules Returned Dec. 31, 1940	Percentage Returned	Number to Be Returned
1. Connecticut.....	2,531	100	2,631	2,204	83.8	427
Maine.....	982	16	998	812	81.4	186
Massachusetts.....	7,910	234	8,144	5,239	64.3	2,905
New Hampshire.....	666	7	673	602	89.5	71
Rhode Island.....	933	15	968	839	86.7	129
Vermont.....	525	4	529	500	94.5	29
Corps area total	13,567	376	13,943	10,196	73.1	3,747
2. Delaware.....	333	18	351	281	80.1	70
New Jersey.....	5,857	192	6,049	4,561	75.4	1,488
New York.....	27,163	736	27,901	18,234	65.4	9,667
Corps area total	33,355	946	34,301	23,076	67.3	11,225
3. Dist. of Columbia	2,247	111	2,358	1,315	55.8	1,043
Maryland.....	2,971	169	3,131	2,478	79.1	653
Pennsylvania.....	13,422	403	13,890	9,022	65.0	4,868
Virginia.....	2,903	52	2,955	2,342	79.3	613
Corps area total	21,543	791	22,334	15,157	67.9	7,177
4. Alabama.....	2,084	26	2,110	1,034	49.0	1,076
Florida.....	2,383	25	2,408	1,629	67.7	779
Georgia.....	2,831	74	2,905	2,157	74.3	748
Louisiana.....	2,402	221	2,623	1,694	64.6	929
Mississippi.....	1,500	3	1,503	1,315	87.5	188
North Carolina.....	2,732	37	2,769	1,038	37.5	1,731
South Carolina.....	1,401	30	1,431	1,037	72.5	394
Tennessee.....	2,015	85	3,000	2,348	78.3	652
Corps area total	18,148	501	18,649	14,472	77.6	4,177
5. Indiana.....	4,140	101	4,250	3,000	70.6	1,250
Kentucky.....	2,906	50	2,956	2,831	95.8	125
Ohio.....	9,338	300	9,638	8,256	85.7	1,382
West Virginia.....	1,847	17	1,864	1,602	85.9	262
Corps area total	18,240	469	18,708	16,679	89.2	2,029
6. Illinois.....	12,306	373	12,679	9,362	73.8	3,317
Michigan.....	6,374	219	6,593	4,693	71.2	1,900
Wisconsin.....	3,496	69	3,565	2,738	76.8	827
Corps area total	22,176	661	22,837	16,793	73.5	6,044
7. Arkansas.....	1,818	23	1,841	1,661	90.2	180
Iowa.....	3,039	39	3,098	2,870	92.6	228
Kansas.....	2,066	29	2,095	1,744	83.2	351
Minnesota.....	3,505	99	3,634	3,362	92.5	272
Nebraska.....	1,599	38	1,637	1,571	95.9	66
Missouri.....	5,271	207	5,478	4,129	75.4	1,349
North Dakota.....	519	9	528	489	92.6	39
South Dakota.....	551	1	552	504	91.1	49
Corps area total	18,388	445	18,833	16,329	86.7	2,504
8. Arizona.....	625	10	635	624	98.3	11
Colorado.....	1,949	47	1,996	1,707	85.5	289
New Mexico.....	436	1	437	370	84.7	67
Oklahoma.....	2,363	21	2,384	2,119	89.3	265
Texas.....	6,932	80	7,012	5,671	80.9	1,341
Corps area total	12,305	159	12,464	10,491	84.2	1,973
9. California.....	11,810	322	12,132	9,935	81.9	2,197
Idaho.....	420	1	421	380	90.3	41
Montana.....	546	8	554	470	84.8	84
Nevada.....	109	1	107	119	71.3	88
Oregon.....	1,438	32	1,470	1,307	89.2	163
Utah.....	574	14	588	531	90.3	57
Washington.....	2,188	65	2,253	2,125	94.3	128
Wyoming.....	276	..	276	260	94.2	16
Corps area total	17,418	443	17,861	15,127	84.7	2,734

that of those physicians 38.3 per cent were in general practice, 31.5 per cent were devoting special attention to some type of limited practice and 30.2 per cent were limited specialists.

A listing of commissioned officers by states and branches of service compiled from about 95,000 punch cards indicates that 12,604 physicians had reported that they now hold commissions in the medical corps. This number included 812 officers of the regular Army Medical Corps, 443 officers of the Medical Corps of the Navy, 444 officers of the United States Public Health

Service, 9,126 officers of the Army Medical Reserve Corps, 990 officers of the Naval Medical Reserve Corps and 789 officers of the Medical Corps of the National Guard.

A listing of physicians in industrial practice shows by states the names of 465 physicians classified in general industrial practice, 1,534 physicians who specialize in industrial surgery, 48 who specialize in preventive medicine in industry, 8 who indicate industrial consultation practice and 5 who specialize in industrial toxicology. These lists were compiled from a total of about 95,000 punch cards and are not complete.

All these listings are only preliminary and are intended to give the Surgeon Generals of the Army, Navy and Public Health Service as much data as are available until complete listings can be made later in the census.

A special listing sheet for public health has just been approved by the Surgeon General of the Public Health Service.

The purpose of the census is to secure and to arrange in useful forms complete and accurate data pertaining to all physicians in the United States. There are three fields for which preparation to supply necessary medical services must be made: the armed forces, expanding industry and the civilian population. A knowledge of the number, age, location, qualifications, availability and other characteristics of the entire medical profession is essential in order that the total personnel resources can be utilized in intelligent preparation, appropriate assignment and adequate services for each of the three groups just mentioned. It is therefore of the greatest importance that every physician regardless of age, type of practice, military experience, personal, professional or other factors send to the Committee on Medical Preparedness a questionnaire accurately and completely answered.

The medical profession by education, experience, tradition and moral obligation is prepared to accept now, as it has in the past, the protection of the health of all the people whether in the military establishment or in the civilian population. The completion and maintenance of a complete and accurate census of physicians is essential in the preparation for an orderly, prompt and efficient medical service.

Summary

Prepayment Plans for Medical Care.—The organization of prepayment plans for medical care continued to occupy a prominent place in medical economics during 1940. A new type of ward care contract is being sold by some group hospitalization organizations without regard to the patient's financial relationship to his attending physician. Persons holding group hospitalization ward plan contracts usually receive both hospital and medical care for the price of the ward contract, since in many hospitals attending physicians are not permitted to charge for services to ward patients.

Other forms of prepaid medical care are being sponsored by the Farm Security Administration and the National Youth Administration with tax funds. The extension of the activities of these and other governmental agencies indicates an increasing tendency toward the utilization of tax funds in the provision of medical care. The development of medical programs by federal agencies which insist on retaining administrative control creates a situation that merits the most careful consideration by the medical profession. Medical standards and competence can be completely destroyed by unsound methods by which the available services are distributed. Any method of distribution of medical services which inhibits, restrains, proscribes or obtrudes by regulation, administrative practice or fiscal arrangement the quality of medical service which could otherwise be made available to the people is dangerous to medicine and to the people it would serve.

Survey of Medical Services and Facilities for the Care of Crippled Children.—At the request and with the support of the National Foundation for Infantile Paralysis, the Bureau early in the year undertook a survey of all funds now available in the United States for the care of the crippled. Questionnaires were sent to governmental and private agencies, to hospitals, to county chapters of

the National Foundation for Infantile Paralysis and to diplomates of the American Board of Orthopedic Surgery. The compilation of information obtained through returned questionnaires shows the scope of the work done, the number of crippled children cared for, the total and average cost of such care, the number and type of cooperating agencies and the need for additional facilities, as well as the extent to which physicians in private practice are giving their services free or at a reduced rate to crippled children case working agencies. Also included in the compilation is a summary of the activities of the various Shrine Crippled Children's Hospitals.

Group Medical Practice.—A study of group medical practice which actually was a recheck and extension of a similar study made in 1933 was undertaken in 1940 in order to learn, if possible, the rate of growth and mortality, and the changes, if any, in locations, sizes, equipment, number and type of specialists as well as other characteristics of medical groups. Only those groups were included in the study which had at least three physicians, pooled their receipts and redistributed them to members. Three hundred and thirty-five groups, more than any previous study had indicated existed in the United States, cooperated in this study. Comments received from members of active and defunct groups indicate that there is no financial advantage in such group organizations and that the greatest cause of the high mortality is internal friction. Only seventeen of these groups reported the use of any type of prepayment contract plan for medical care. Although the American Medical Association and its constituent societies have been charged with opposition to group practice, a search of the Proceedings of the House of Delegates of the American Medical Association for thirty-two years failed to show any action that indicated the slightest hostility to the formation of ethical medical groups.

Medical Preparedness.—The Bureau of Medical Economics was given the responsibility of conducting a survey of physicians for the Committee on Medical Preparedness and to assemble such other information, not easily obtainable in such a census, that would be of assistance to the Surgeon Generals of the Army, Navy and Public Health Service. The content and arrangement of the schedule used in the census of physicians was approved by the three Surgeon Generals.

The first schedules were mailed on July 5, 1940 to the latest known address of 175,140 physicians in the United States and to 4,878 physicians in the outlying territories and possessions. Since July 16, when the first mailing was completed, 4,790 new names of physicians have been added to the United States list and 306 to the territorial list, so that the total number of schedules mailed as of Dec. 31, 1940 was 185,114. On Dec. 31, 1940 the number of schedules returned by physicians in the United States was 138,320, or 77 per cent, and the number received from physicians in the territories and possessions was 1,483, or 29 per cent.

In order that information on medical preparedness schedules may be more easily listed and consolidated, the data obtained are being transferred to punch cards, but before this can be done each schedule received must be edited and coded and the data checked for completeness and accuracy. It was necessary during the early part of the census to mail supplementary schedules in order to obtain additional or correct information. Of the 139,803 schedules received up to and including Dec. 31, 1940, 115,796 have been prepared for punch cards which can be sorted for any desired information and the coding transferred to listing sheets. Listings on special sheets have already been prepared.

The purpose of the census is to secure and to arrange in useful forms complete and accurate data pertaining to all physicians in the United States. There are three fields for which preparation to supply necessary medical services must be made: the armed forces, expanding

industry and the civilian population. A knowledge of the number, age, location, qualifications, availability and other characteristics of the entire medical profession is essential in order that the total personnel resources can be utilized in intelligent preparation, appropriate assignment and adequate services for each of the three groups just mentioned. It is of the greatest importance that every physician regardless of age, type of practice, military experience, personal, professional or other factors send to the Committee on Medical Preparedness a questionnaire accurately and completely answered. The completion and maintenance of a complete and accurate census of physicians is essential in the preparation for an orderly, prompt and efficient medical service.

Bureau of Investigation

The Bureau of Investigation continues to play a most active part in the educational activities of the American Medical Association. It supplies information concerning "patent medicines," quacks, frauds, fakes and faddists to physicians, laymen, government agencies, Better Business Bureaus, business corporations, newspapers, radio stations and high school and college students who are making studies of such subjects.

EFFECT OF NEW FEDERAL LEGISLATION

The enactment of new federal legislation concerning "patent medicines" and cosmetics has not greatly affected the number of inquiries received by the Bureau, in spite of the fact that these regulations require the declaration of the active ingredients of such preparations and the inclusion of warning statements on some items. This is due largely to the fact that additional reforms in the "patent medicine" and cosmetic industries are still needed. Once again it is predicted that after these industries have become accustomed to the new stipulations and their limiting effects, some of them will attempt to evade or circumvent these stipulations. Any weaknesses in the law will become evident as time passes, and the Bureau will be called on to supply information to the same if not to a greater extent than in the past.

Of major importance is the fact that the new law requires quantitative declarations of only a few drugs, and therefore it is still difficult even for physicians to express an opinion about such remedies. The declaration of active ingredients does lessen the number of requests which the Bureau makes of the Chemical Laboratory for analysis of many items which are to be subjects of reports.

COOPERATION WITH GOVERNMENTAL AGENCIES

The Director has spent much more time than in preceding years with representatives of various federal agencies, at their request. At the top of this list is the Federal Trade Commission, followed in order by the Food and Drug Administration, the Post Office Department, the Federal Bureau of Investigation and the Treasury Department.

CLASSIFICATION OF INQUIRIES

In the annual report of the Bureau for 1938 it was pointed out that the increasing number of letters from students was of special significance, first because of the age of those requesting the information and second because of the fact that much of the information is passed on to other students. In the annual report for 1939 the inquiries from students totaled only 12 per cent, whereas during 1940 inquiries from students and teachers represented 40 per cent of the total. About 25 per cent of the inquiries were received from physicians and 25 per cent from laymen not otherwise classified. The remainder of the inquiries were about equally divided between Better Business Bureaus, government agencies, newspapers and radio stations.

The principal subjects of the inquiries received by the Bureau in addition to general inquiries were concerned with a popular antacid containing aspirin, a widely advertised line of remedies for colds, an "epilepsy cure," aspirin, a mouth gargle, a "pain killer," a liver pill, a blood pressure treatment, a cancer treatment, a reducing candy, a soft drink, an antacid and two laxatives. The leading subjects represent less than 25 per cent of the total number of subjects inquired about (12,053).

PUBLICATION

The Bureau contributed thirty-one articles to THE JOURNAL during 1940. This material totaled sixty-six and one-half columns in addition to one hundred and twenty-eight paragraphs dealing with Notices of Judgment, as compared with fifty-four columns in the preceding year and thirty-four and one-half columns for each of the three years preceding 1939. Worthy of note is the fact that 50 per cent of the material published in 1940 dealt primarily with individuals rather than with products, whereas in the four preceding years articles about individuals represented only about one third of the total. The former Director of the Bureau, Dr. Arthur J. Cramp, has prepared some of the reports that have been published. Many of the articles based on fraud orders were prepared by the Assistant Director, Mr. B. O. Halling.

During the year three thousand, seven hundred and thirty pamphlets issued by the Bureau were distributed. A new pamphlet entitled "Cosmetics," which will replace the older "Cosmetics and Allied Preparations," has been prepared and is now on the press. Three additional new pamphlets to replace older issues are in process of preparation.

Lantern slides provided for the use of physicians were revised and a film strip of the revised slides was prepared.

FIELD WORK

The Director of the Bureau during 1940 made twenty-seven talks and addresses to lay audiences and professional groups under the sponsorship of medical societies, of local woman's auxiliaries and of a number of other groups. Fourteen of these addresses were given in the Chicago area and the remainder in Milwaukee, St. Joseph, Mo., Superior, Wis., Springfield, Mo., and Topeka, Kan.

Summary

The Bureau of Investigation has maintained its work, which was first instituted in 1906, by supplying information to the profession and to the public by means of correspondence, by addresses by the Director and by providing slides and film strips for the use of physicians and educators in their contacts with the public.

The work of preparing material for publication in THE JOURNAL increased during 1940, and the relationships of the Bureau with various official agencies of the federal government have been augmented.

Bureau of Exhibits

The work of the Bureau of Exhibits covered a diversified number of activities in 1940, the Scientific Exhibit at the New York session, Association exhibits at various fairs and expositions, the New York World's Fair, exhibits at different museums and motion pictures.

THE SCIENTIFIC EXHIBIT

The Scientific Exhibit is administered under the supervision of the Committee on Scientific Exhibit of the Board of Trustees. For purposes of advice and assistance, there is an advisory committee of seven members appointed by the Board of Trustees and a further advisory group of sixteen physicians representing the sixteen sections of the Scientific Assembly and appointed by the respective sections. Numerous individuals also are called on for suggestions from time to time as problems arise.

The Scientific Exhibit continued at the New York session to fulfil its function as an instrument of graduate medical education. The caliber of the exhibits presented, the perseverance and energy of the demonstrators under trying conditions, the interest and enthusiasm displayed by the great number of visitors that filled the hall throughout the week, all indicated the value to the advancement of scientific medicine of this method of presentation.

Applications for space numbered nearly five hundred, half of which it was necessary to refuse because of the limitations of the hall. The selection of applications under such circumstances is a most difficult task.

The fifteen sections of the Scientific Assembly in 1940 were represented by groups of exhibits dealing with the various specialties, which, together with a group of exhibits on anes-

thesia and an exhibit symposium on heart disease presented in cooperation with the American Heart Association, totaled two hundred and forty-three exhibits.

Motion pictures were shown in many of the booths, supplementing the exhibit material which they contained. In addition, three of the sections presented motion picture programs simultaneously and continuously throughout the week in areas adjoining the exhibits of those sections.

Three special exhibits were sponsored by the Board of Trustees. The special exhibit on fractures was shown for the tenth time and continued to be a popular feature. A folder containing the essential points of information was distributed to visitors. The exhibit was presented under the auspices of a committee headed by Dr. Kellogg Speed, Chicago, and the assistance of the Surgeon General of the Army added materially to its success.

The special exhibit on lame backs, shown for the first time, was prepared under the auspices of a committee of which Dr. Frank R. Ober, Boston, was chairman.

The special exhibit on fresh pathologic material was shown in cooperation with the Section on Pathology and Physiology under the guidance of a committee headed by Dr. Harrison S. Martland, Newark, N. J.

Awards and citations were made to thirty-one exhibitors. The Committee on Awards, of which Dr. Fred D. Weidman, Philadelphia, was chairman, worked diligently and long in considering the relative merits of the large amount of excellent material presented.

ASSOCIATION EXHIBITS

Association exhibits depicting the activities of the Association and similar subjects fall into two groups—strictly scientific subjects for medical societies and popular exhibits for fairs and expositions.

There are now available forty-six exhibits for loan to state and county medical societies and to other organizations approved by the component county or constituent state medical societies. During the past year three exhibits were discontinued and ten new exhibits added. On seventy-six occasions, exhibit material was sent out to twenty-seven states. Sometimes more than one exhibit was included in the shipment, thus making a total of one hundred and forty-one units sent out during the year. The average showing lasted from three or four days to a week, but on several occasions the time was extended to a month or more. Because of previous reservations, many requests had to be refused. Numerous other requests were received for exhibits which the Association did not have. Schools especially made requests which could not be filled. A list of exhibits published in *THE JOURNAL* toward the close of the year resulted in a flood of requests for 1941.

Responsibility for installation and demonstration of the Association exhibits rests largely with the groups which borrow the material. The Director of the Bureau finds it impossible to attend more than a very few of the meetings to which material is sent.

NEW YORK WORLD'S FAIR

The American Medical Association again participated in the New York World's Fair with its exhibit on "Medical Education." Few changes were made from the 1939 presentation of this exhibit, except to overhaul and replace exhibits that were worn out.

The 1940 fair opened on May 11 and closed on October 27, a total of one hundred and seventy days. During this period, half a million people visited the booth of the American Medical Association, spending from a few minutes to half an hour or more. An attendant was constantly on hand to demonstrate the exhibit and to answer questions. A further service to the visitor was the opportunity to write, on a blank provided for the purpose, requests for information to be sent from the American Medical Association headquarters. Two thousand, two hundred and sixty-five persons took advantage of this. The questions were answered by the Bureau of Health Education.

An interesting observation on the eagerness of the public for information concerning medical education and qualifications of physicians was the extent to which the set of files on medical schools was used. These were so popular that they had to be replaced twice during the season.

Other contributions of the American Medical Association to the New York World's Fair were the murals in the Medicine and Public Health Building and the *HYGEIA* exhibit in the Infant Incubator Building.

MUSEUMS

The House of Delegates at the New York session passed a resolution urging the support of health museums. During the year a considerable number of communities have sought advice or assistance in this matter. It is apparent that museums are becoming a potent factor in health education.

The Chicago Museum of Science and Industry was the recipient of a considerable amount of exhibit material shown in 1939 at the Golden Gate International Exposition. These exhibits, together with some of those shown at A Century of Progress in Chicago, made a large showing for the American Medical Association. A question and answer service was conducted for the benefit of those who wished specific information from the American Medical Association. The answers were sent out by mail by the Bureau of Health Education. During the year, the museum completed its building program and opened all exhibits to the public. The attendance for the year was five hundred and sixteen thousand, six hundred and forty-eight.

The American Museum of Health in New York was the recipient of the exhibit on "Medical Education" shown by the American Medical Association at the New York World's Fair. The American Museum of Health is now in the process of installing its exhibits in a permanent location in one of the buildings on the fairgrounds. It will be opened to the public in the near future.

The Cleveland Health Museum opened in November with a considerable number of loan exhibits from the American Medical Association on display. This material will be changed from time to time as occasion demands. Among other features is an exhibit on *HYGEIA*, the Health Magazine, with a question and answer service for visitors.

MOTION PICTURES

In accordance with the action of the House of Delegates in 1937, the Bureau has continued to furnish information concerning motion pictures. The demand is constant and urgent and has become a major problem for the Bureau. There are twenty-two films in the loan collection, only three of which are suitable for lay audiences. No new films have been added during the year.

The films have been sent out on one hundred and eighty occasions to thirty-five states, to the District of Columbia and to Canada. In many instances two or three pictures were sent, making a total of three hundred and twenty-five pictures. Often the pictures were shown to several audiences before they were returned.

Many hundreds of letters inquiring about sources of motion pictures on particular subjects which cannot be filled from the loan collection are received.

PUBLICATIONS

Several publications of the Bureau have continued to be popular. The *Primer on Fractures* is in its fourth edition. Thousands of copies of the pamphlet on poliomyelitis have been distributed, and it is now in the process of another revision. The pamphlet on varicose veins is likewise being revised for a new edition. The manuscript for a pamphlet on anesthesia has been prepared and is ready for printing. The exhibit committee on lame backs has prepared for an early printing a pamphlet on lame backs.

Summary

The Scientific Exhibit at the New York session included two hundred and forty-five exhibits and three groups of motion pictures. There were special exhibits on fractures, lame backs and fresh pathologic material, and exhibit symposiums on heart disease and anesthesia.

Association exhibits, dealing with the activities of the Association, number forty-six. They were shown one hundred and forty-one times in twenty-seven states.

The exhibit of the American Medical Association on "Medical Education" shown in the Medicine and Public Health Building at the New York World's Fair attracted

half a million visitors, while the Hygeia exhibit in the Infant Incubator Building attracted many thousands more.

Museums have been the recipients of exhibit material from the American Medical Association, especially the Chicago Museum of Science and Industry, the American Museum of Health and the Cleveland Health Museum.

The twenty-two motion pictures in the film collection of the Association have been sent out three hundred and twenty-five times and shown in thirty-five states, the District of Columbia and Canada.

The publications of the Bureau are in constant demand and are revised at intervals sufficiently frequent to keep them up to date.

Committee on American Health Resorts

The Committee on American Health Resorts held one meeting during the annual session of the American Medical Association in New York in June 1940 and a second meeting at Association headquarters in January 1941.

The Committee records with regret the death of its Chairman, Dr. Bernard Fantus. Dr. W. S. McClellan was designated as Acting Chairman.

The early part of the year was spent in the development of a questionnaire to be sent to health resorts. On July 1 an employee was transferred from the Bureau of Health Education to handle the office work for the Committee, and Dr. W. W. Bauer, Director of the Bureau of Health Education, was assigned to supervision of this work without membership on the Committee.

The first problem was to ascertain the probable location of health resorts in the United States. All literature and listings were out of date and, in many instances, out of print. A mailing list, therefore, was developed from listings furnished by the American Congress on Physical Therapy together with information derived from government publications, textbooks, the United States Travel Bureau, state health departments, road maps, advertising pages and articles from medical journals, lay magazines and newspapers, postal guides, tourist guides and miscellaneous sources.

It was necessary to query ninety-four chambers of commerce, seventy-five component county medical societies and eighteen county health officers concerning two hundred and thirty-five localities where springs were reputed to exist. In many instances the supposed springs are not used, do not exist or are unknown to those to whom inquiries were directed.

Six hundred and six questionnaires were sent out, of which two hundred and seventeen were returned as of Dec. 31, 1940. In the effort to get more complete returns, four hundred and forty-one follow-up letters were sent, and thirty-one institutions received second questionnaires to replace originals lost or misplaced.

Questionnaires particularly planned to ascertain the extent of health department supervision over health resorts and mineral waters were sent to all state and territorial health departments.

A Committee bulletin has been sent out in six issues, two in July, two in August, one in October and one in November. These bulletins comprised fifty-eight single spaced typewritten pages and were circulated, in addition to members of the Committee, to Association departments whose functions appear to touch on the question of health resorts, namely the Council on Pharmacy and Chemistry, the Council on Medical Education and Hospitals, the Council on Physical Therapy, the Bureau of Investigation and the Advertising Department.

Thus far the work of the Committee has been exclusively fact finding. The results, based on questionnaires returned, are as follows:

(The classifications are purely tentative. The Committee has not yet formulated any rules by which institutions can be listed or classified.)

Class 1. Institutions which employ mineral waters and/or mud for treatment purposes (these may also employ mineral waters for therapeutic drinking in addition), one hundred and four.

Class 2. Institutions which employ mineral waters for therapeutic drinking only, nine.

Class 3. Institutions which use the Battle Creek system, or a similar system, plus climate and sunshine as natural resources, no mineral water, and so on, four.

Class 4. Institutions which use the Battle Creek system, or a similar system, and which do not make use of any natural resources, eight.

Class 5. Waters are bottled and sold only, five.

Class 6. Questionnaire sent to hotel or bath house but returned by institution, hospital or other interested party with the information that the springs exist but that neither they nor any other institutions make use of the waters of the spring, six.

Class 7. Resorts at which mineral waters or hot springs are used for pleasure bathing or general drinking, nine.

Class 8. Resorts at which there are no springs and which are purely resort hotels, four.

Class 9. Questionnaires returned unclaimed marked by the post office as "unknown" or "not found," forty-one.

Class 10. Questionnaires returned unclaimed marked by the post office as "closed," "moved," "none in operation" or otherwise, fifteen.

Class 11. Questionnaires claimed by owners or interested parties and returned with information that the institutions were closed, burned or no longer operating as health resorts, eleven.

Class 12. Miscellaneous, one.

The following resolution adopted by the Council on Physical Therapy at its meeting in December 1940 was referred to the Committee on American Health Resorts, and this Committee has submitted recommendations to the Board of Trustees:

Resolved, That measures be taken to expedite consummation of the plans laid to investigate and evaluate the health resorts of the United States, especially in view of the partial emergency which faces the country today;

That the present Committee on American Health Resorts be enlarged to include other branches of the medical profession; viz., men qualified in the fields basic to physical therapy such as a physiologist, and also men qualified to study and evaluate clinical results such as an internist, a cardiologist, an orthopedist and a physical therapist;

That the organization of a separate Council on Health Resorts be deferred and that, as a preliminary step, the matter be placed under the auspices of the three Councils of the American Medical Association already concerned.

The Committee on American Health Resorts is composed of Dr. Walter S. McClellan, Dr. Euclid M. Smith, Dr. M. B. Jarman, Dr. William P. Holbrook and Dr. Frank H. Krusen. Dr. Krusen was appointed to membership on the Committee at the February 1941 meeting of the Board of Trustees.

Advisory Committee on Advertising of Cosmetics and Soaps

The Advisory Committee on Advertising of Cosmetics and Soaps continued to consider those cosmetic preparations which were submitted for advertising in *THE JOURNAL* and *HYGEIA*. The Committee studied the nature of cosmetic preparations and the evidence for claims made for these cosmetics prior to acceptance of the advertising for the products. The Committee also answered inquiries from laymen and physicians with regard to these products.

Although the functions of the Committee continued to be of use to the Association, its work became less essential from the point of view of the public with the enactment of the Food, Drug and Cosmetic Act and the Wheeler-Lea Amendment to the Federal Trade Commission Act. The manufacturers who have requested the right to advertise their products in the publications of the Association have displayed a commendable attitude toward the Committee and apparently are enthusiastic about the ethical promotion of cosmetics, much as were some of the drug manufacturers when the Food and Drug Act was passed in 1906.

The following actions were taken by the Advisory Committee on Advertising of Cosmetics and Soaps in 1940:

The ruling of the previous year that quantitative formulas were required was modified so that manufacturers were merely to submit the quantities of certain ingredients declared in the qualitative formula when such information was essential to the consideration of a product by the referee and the Committee.

A motion was adopted that no claims for cosmetic products would be permitted implying that they nourish the skin, hair, scalp or lips or that they grow hair. No product may be said to go "deep down" into the pores. No cosmetic product may "restore" anything that nature possesses; it may supply or furnish. Lipstick may not be termed "indelible," since this implies permanence.

The use of the phrase "skin foods" has been declared to be contrary to the provisions of the Food, Drug and Cosmetic Act.

The Committee voted that the terms "instantly" and "instantaneous" would not be permitted to describe the action of products in acceptable advertising of deodorants.

The Committee adopted the rule that in radio broadcasting only certain types of references and phrases be permitted in referring to the Committee and to the acceptance of advertising of cosmetics in publications of the American Medical Association.

Since October 1940, pursuant to action taken by the Board of Trustees, the Committee has ceased its function of giving consideration to individual cosmetic preparations but has con-

tinued functioning, as a Committee on Cosmetics, primarily for the purpose of issuing reports for publication in *THE JOURNAL* on cosmetic preparations by class. The first general report of this committee will be available for publication at an early date.

Dr. Paul C. Barton, who served as secretary of the Advisory Committee on Advertising of Cosmetics and Soaps, continues as secretary of the Committee on Cosmetics. He has acted as an adviser to the Association's Advertising Committee in its consideration of cosmetic items and, whenever necessary, has sought the advice of former members of the Committee on cosmetic products which had not had the consideration of the full Committee.

Summary

In accordance with the action of the Board of Trustees, the Advisory Committee on Advertising of Cosmetics and Soaps during the year discontinued the consideration of individual cosmetics and instituted the preparation of general reports on cosmetic preparations for publication in *The Journal* as the reports of the Committee on Cosmetics. The secretary continued in the same capacity for the Committee on Cosmetics and directed consultation with authorities in this field regarding new cosmetic products which were presented for advertising in the publications of the American Medical Association.

Committee to Study Air Conditioning

The Committee to Study Air Conditioning as it is now constituted is composed of the following members: Dr. Carey P. McCord, chairman, Dr. Walter M. Simpson and Prof. C. P. Yaglou.

This committee has outlined a rather comprehensive program involving studies of many of the important phases of the general subject of air conditioning, and it is expected that official reports prepared by the committee will be ready for publication during 1941.

Committee on Conservation of Vision and Prevention of Blindness

In compliance with the provisions of a resolution submitted to the House of Delegates at the New York session by Dr. Arthur J. Bedell, delegate from the Section on Ophthalmology, the following Committee on Conservation of Vision and Prevention of Blindness has been appointed: Dr. Arthur J. Bedell, Dr. S. Judd Beach, Dr. Harry S. Gradle, Dr. Albert C. Snell and Dr. Olin West.

A meeting of this committee is to be held in Cleveland prior to the meeting of the House of Delegates at the annual session in that city, and the committee will no doubt submit a report to the House of Delegates during the session.

Insurance Plans for Indemnity Against the Cost of Sickness and Hospitalization

Because of suggestions emanating from various sources pertaining to the issuance by old line insurance companies of policies which provide indemnity against the cost of sickness and hospitalization, the Board of Trustees, through its official representatives, has conferred with official representatives of certain large insurance companies.

The Board of Trustees knows of no reason why reliable insurance companies should not offer policies to those who wish to secure such protection, provided the insurance can be offered at a reasonable cost and that such benefits as are provided shall be paid not to some third party but to the insured in cash.

The conditions that have obtained have been such as to make it impossible to go into these matters with sufficient thoroughness to justify a complete report to the House of Delegates at this time. It is the intention of the Board of Trustees to pursue the matter further and, if developments seem to make it desirable, to submit a report to the House of Delegates at a later time.

Dr. Irons Successor to Dr. Hayden

At the meeting of the Board of Trustees held in September 1940, Dr. Ernest E. Irons of Chicago was appointed to serve as a member of the Board of Trustees in the place of Dr. Austin A. Hayden, deceased, until the annual session in 1941, in accordance with the provisions of the Constitution and By-Laws of the Association. Dr. Irons was elected to serve as Secretary of the Board of Trustees during the period for which he was appointed as a member. He has long been officially connected with the Association's work as an efficient and capable member of the Council on Pharmacy and Chemistry.

Resolution on Heroin

The resolution on heroin, which was submitted to the House of Delegates at the New York session by Dr. A. A. Herold, delegate from Louisiana, was referred to the Council on Pharmacy and Chemistry, and the Council has reported to the Board of Trustees that the resolution has been given consideration but that it will be some time before a final report can be offered.

Conclusion

In closing this report, the Board of Trustees desires to express its grateful appreciation of the loyalty and efficiency which the more than six hundred members of the working personnel of the Association have exhibited during the past year. Even those employees in the most humble positions have attempted to do their full share in contributing to the fullest possible realization of the accomplishment of the aims and objects of the Association as these are defined in its Constitution.

Respectfully submitted.

ARTHUR W. BOOTH, Chairman.

ERNEST E. IRONS, Secretary.

THOMAS S. CULLEN.

R. L. SENSENICH.

WILLIAM F. BRAASCH.

ROGER I. LEE.

ELMER L. HENDERSON.

RALPH A. FENTON.

JAMES R. BLOSS.

Report of the Committee on Scientific Research for 1940

During the year fifty-five applications were considered and thirty-three grants were made, amounting to \$10,740. In all cases but one the money was turned over to the financial officer of the institution in which the grantee was working, with the understanding that it would be subject to requisitions by the grantee and that an accurate account of the expenses would be kept. Results of work under fifty-six grants have been published or are in course of publication. The results of work under twelve grants prior to 1940 are being prepared for publication. Under twenty-eight grants given prior to 1940 active work is still in progress, but in several cases reports on results have been published.

TABLE 1.—Financial Statement for 1940

Balance, Jan. 1, 1940.....	\$ 543.63
Appropriation for 1940.....	13,700.00
Refund, grant 410.....	15.85
Refund, grant 434.....	3.97
Refund, grant 443.....	64.01
Refund, grant 506.....	41.77
Refund, grant 523.....	7.11
Refund, grant 529.....	53.33
Refund, grant 535.....	102.38
Refund, grant 540.....	50.00
Refund, grant 543.....	1.84
Refund, grant 551.....	48.04
	<hr/> \$14,631.93

In the case of eight closed grants no results have been published. This failure of publication, the most tangible return from a grant, is due to various reasons. One grantee died before his work was completed. In other cases the work failed to yield results worthy of publication, which may be the outcome of even the best-planned research. In at least certain cases the unpublished results of grant-aided research may prove of

value in other work and may be used in later publications. It should be noted that only relatively small grants are made in support of what seems to be promising individual work, sometimes carried out under limited facilities. Here the significance of a grant as a stimulus to the recipient and to the institution with which he is connected should not be overlooked.

The report shows that on the whole the grants have been used conscientiously and with good results. After a grant has been made, requests are sent at six month intervals for reports on the progress of the work, and with exceptions the response is prompt and satisfactory.

During the year unexpended balances from grants amounting to \$388.30 have been refunded (table 1).

The committee again ventures to recommend that the appropriation for grants in aid of research be continued.

The financial statement for 1940 is presented. Also brief accounts of grants under which work was completed during

TABLE 2.—Grants and Expenses Paid in 1940

Grant 566, Robert S. Dow.....	\$300.00
Grant 567, Armand J. Quick.....	275.00
Grant 568, Fritz Schiff.....	400.00
Grant 569, Israel Davidsohn.....	400.00
Grant 570, William H. Sweet.....	300.00
Grant 571, Joseph T. King.....	280.00
Grant 572, Committee on Fluoride Intoxication, University of Chicago.....	750.00
Grant 573, Louis N. Katz.....	250.00
Grant 574, A. G. Eaton.....	300.00
Grant 575, Doran J. Stephens.....	400.00
Grant 576, Edward S. West.....	250.00
Grant 577, Alexander H. Levy.....	200.00
Grant 578, L. G. Meduna, Francis Gerty and V. G. Urse.....	500.00
Grant 579, Harry C. Rolnick.....	200.00
Grant 580, Lawrence W. Smith.....	480.00
Grant 581, Charles G. Johnston.....	285.00
Grant 582, Charles W. Greene.....	500.00
Grant 583, Ulrich Friedemann.....	300.00
Grant 584, Oscar V. Batson.....	200.00
Grant 585, Howard Curl.....	400.00
Grant 586, Herman Kabat.....	300.00
Grant 587, Charles F. Code.....	100.00
Grant 588, Owen H. Wangensteen.....	450.00
Grant 589, Rucker Cleveland.....	400.00
Grant 590, David Polowe.....	150.00
Grant 591, Percival Bailey.....	500.00
Grant 592, Wesley W. Spink.....	120.00
Grant 593, A. M. Lassek.....	300.00
Grant 594, I. L. Chaikoff.....	350.00
Grant 595, Arthur C. Allen.....	250.00
Grant 596, Israel Davidsohn.....	400.00
Grant 597, David Polowe.....	100.00
Grant 598, Siegbert Bornstein.....	350.00
Clerical expense.....	600.00
Committee expense.....	230.75
Printing and supplies.....	9.58
	\$11,580.33
Balance on hand.....	\$ 3,051.60

the year and of grants pending at the end of 1939, as well as a list of grants made in 1940, are presented (table 2).

Respectfully submitted,

COMMITTEE ON SCIENTIFIC RESEARCH OF
THE AMERICAN MEDICAL ASSOCIATION.

LUDVIG HEKTOEN, Chicago, Chairman.

Term expires, 1941.

N. W. JONES, Portland, Ore.

Term expires, 1944.

MARTIN H. FISCHER, Cincinnati.

Term expires, 1945.

JOHN J. MORTON, Rochester, N. Y.

Term expires, 1943.

E. W. GOODPASTURE, Nashville, Tenn.

Term expires, 1942.

GRANTS OF COMMITTEE ON SCIENTIFIC RESEARCH NEW GRANTS—1940

Grant 566: Robert S. Dow, University of Oregon Medical School, \$300, vessels in lesions of multiple sclerosis.

Grant 567: Armand J. Quick, Marquette University, \$275, conversion of prothrombin to thrombin.

Grant 568: Fritz Schiff, Beth Israel Hospital, New York, \$400, serologic classification of Salmonella.

Grant 569: Israel Davidsohn, Mount Sinai Hospital, Chicago, \$400, Thomson panagglutination phenomenon in serum.

Grant 570: William H. Sweet, University of Chicago, \$300, course of nerve fiber tracts of the temporal lobe.

Grant 571: Joseph T. King, University of Minnesota, \$280, antagonistic effect of tissues on the action of sulfanilamide.

Grant 572: Committee on Fluoride Intoxication, University of Chicago, \$750, bone changes due to fluoride intoxication.

Grant 573: Louis N. Katz, Michael Reese Hospital, Chicago, \$250, factors influencing activities of the heart.

Grant 574: A. G. Eaton, Louisiana State University, \$300, absorption and metabolism of amino acids.

Grant 575: Doran J. Stephens, University of Rochester, \$400, changes in the thyroid gland of undernourished guinea pigs.

Grant 576: Edward S. West, University of Oregon Medical School, \$250, solution of vesical calculi.

Grant 577: Alexander H. Levy, University of Oregon Medical School, \$200, collateral circulation for coronary occlusion.

Grant 578: L. G. Meduna, Francis Gerty and V. G. Urse, Loyola University, Chicago, \$500, biochemical phenomena in schizophrenia.

Grant 579: Harry C. Rolnick, Michael Reese Hospital, Chicago, \$200, effect of trauma on the response of the kidney to sudden blockage.

Grant 580: Lawrence W. Smith, Temple University, \$480, "critical" temperature levels of various neoplastic diseases.

Grant 581: Charles G. Johnston, Wayne University, \$285, intestinal obstruction.

Grant 582: Charles W. Greene, Stanford University, \$500, physiology of the coronary system in monkeys.

Grant 583: Ulrich Friedemann, Jewish Hospital of Brooklyn, \$300, genesis of tetanus.

Grant 584: Oscar V. Batson, University of Pennsylvania, \$200, nystagmus.

Grant 585: Howard Curl, University of Tennessee, \$400, roentgenologic study of the normal gallbladder.

Grant 586: Herman Kabat, University of Minnesota, \$300, nervous component in traumatic shock.

Grant 587: Charles F. Code, University of Minnesota, \$100, action of intramuscular injection of desoxycorticosterone and epinephrine in a yellow wax (U. S. P.) mixture.

Grant 588: Owen H. Wangensteen, University of Minnesota, \$450, physiologic basis of surgical treatment of duodenal and gastric ulcers.

Grant 589: Rucker Cleveland, Vanderbilt University, \$400, histology and cytology of endometrium.

Grant 590: David Polowe, Paterson, N. J., \$150, pancreatic function test.

Grant 591: Percival Bailey, University of Illinois, \$500, effects of electrolytic lesions in the periaqueductal gray matter of the Macacus monkey.

Grant 592: Wesley W. Spink, University of Minnesota, \$120, anti-staphylococcal immunity and nutrition of staphylococci.

Grant 593: A. M. Lassek, Medical College of the State of South Carolina, \$300, origin of the pyramidal tract in the monkey.

Grant 594: I. L. Chaikoff, University of California, \$350, phospholipid metabolism and blood regeneration as measured by radioactive phosphorus.

Grant 595: Arthur C. Allen, Mount Sinai Hospital, New York, \$250, effect of chemicals on vegetations of experimental endocarditis.

Grant 596: Israel Davidsohn, Mount Sinai Hospital, Chicago, \$400, bacteriogenic hemagglutination.

Grant 597: David Polowe, Paterson, N. J., \$100, pancreatic function test.

Grant 598: Siegbert Bornstein, Beth Israel Hospital, New York, \$350, epidemiology and serology of American Salmonella.

STATE OF WORK UNDER PREVIOUS GRANTS

1. COMPLETED DURING THE YEAR

Grant 286, 1933: F. H. Pike, Columbia University, \$600, the effects of successive experimental lesions of the nervous system. Pike, F. H.: Cerebellar Symptoms from Unsymmetrical Lesions After Median Longitudinal Section of Decussations of Forel and of the Superior Brachium, *Am. J. Physiol.* **116**: 121, 1936; Motor Effects of Median Longitudinal Incision of the Decussations of Medial Lemniscus and Corticospinal Tracts in the Cat, *ibid.* **119**: 384, 1937; Combined Lesions of the Decussations of the Pyramidal Tracts and of the Medial Lemniscus with Bilateral Vestibular Destruction, *ibid.* **123**: 163, 1938.

Grant 308, 1933: John L. Ulrich, Johns Hopkins University, \$250, the reflex system in the cat. See grant 372, 1935. Ulrich, J. L.: Differences of Potential Not Previously Recognized as Present in Substances, to be published; The Differences of Potential and the Existence of an Electric Current in Tissues, to be published; The Electrical Conditions of Tissues and Organs in the Body for a Standing and a Relaxing Posture of Animals, to be published.

Grant 309, 1933: Carroll L. Birch, University of Illinois School of Medicine, \$300, assay of urine for sex hormone of the anterior pituitary. Birch, G. L.: Hemophilia: Clinical and Genetic Aspects, in Illinois Medical and Dental Monographs, Urbana, Ill., University of Illinois Press, 1937, vol. 1, no. 4; Assay of the Estrogenic Hormone in Hemophilic and Normal Male Urine, to be published.

Grant 337, 1934: James L. O'Leary, Washington University, \$245, Loven reflexes. Bishop, G. H., and O'Leary, J. L.: Pathways Through the Sympathetic Nervous System in the Bullfrog, *J. Neurophysiol.* **1**: 442, 1938; B and C Nerve Fibers, *Am. J. Physiol.* **126**: 434, 1939.

Grant 367, 1935: Robert H. Gault and A. C. Ivy, American Institute for the Deaf-Blind, Evanston, Ill., \$600, mechanical stimulation of the vibratocile organs. See grant 412, 1936. It is planned to publish the results under the general title "Animal Studies in Vibratocile Sensitivity."

Grant 372, 1935: John L. Ulrich, Johns Hopkins University, \$450, cerebral functions in the action of antagonistic muscles. See grant 308, 1933.

- Grant 382, 1935: L. S. Goodman, A. J. Geiger and L. N. Claiborn, Yale University, \$250, antianemic principle. Geiger, A. J.; Goodman, L. S., and Claiborn, L. N.: Effects of Gastro-Intestinal Resections in Swine on the Anti-Anemia Potency of the Liver, *Yale J. Biol. & Med.* **13**: 259, 1940.
- Grant 407, 1936: Ralph I. Dorfman, Louisiana State University, \$250, estrogenic substance in human urine and other estrogenic compounds. Dorfman, R. I.: Estrogenic Substance in Urine, *Science* **92**: 585, 1940; The Comparative Activity of Naturally Occurring Estrogens on the Infantile Rat Uterus and Vagina, *Proc. Soc. Exper. Biol. & Med.* **45**: 494, 1940.
- Grant 412, 1936: Robert H. Gault and A. C. Ivy, American Institute for the Deaf-Blind, Evanston, Ill., \$400, stimulation of vibrotactile organs by mechanical vibrations. See grant 367, 1935.
- Grant 420, 1936: Arthur Knudson, Albany Medical College, \$400, synthesis of cholesterol in the animal body. Sturges, S., and Knudson, A.: Application of the Schoenheimer-Sperry Method to the Determination of Cholesterol and Cholesterol Esters in Tissues, *J. Biol. Chem.* **126**: 543, 1938. Knudson, A.; Ziegler, J. B.; Remp, D. G., and Floody, R. J.: The Influence of Fat on the Metabolism of Sterols in the Rat, *ibid.*, to be published.
- Grant 434, 1936: Wilbert H. McGaw, Western Reserve University, \$500, sound conduction in fractured bones (refund, \$3.97). McGaw, W. H.: Ossesonometry: I. The Use of Percussion-Auscultation in Fractures, to be published.
- Grant 442, 1937: S. J. Crowe, Johns Hopkins University, \$480, physiology of hearing. Walzl, E. M.: The Effect of Chemicals on Cochlear Potentials, *Am. J. Physiol.* **125**: 688, 1939. Walzl, E. M., and Bordley, J. E.: Localization of Cochlear Potentials, *ibid.* **126**: 648, 1939.
- Grant 443, 1937: Ernest Carroll Faust, Tulane University, \$300, epidemiology of trichinosis in New Orleans (refund, \$64.01). Sawitz, W.: Are Postmortem Statistics on Trichinosis Valid for the Living Population? *Am. J. Pub. Health* **27**: 1023, 1937; Studies on Trichinella Spiralis in the New Orleans Area, *Arch. Path.* **28**: 11, 1939. Peres, C. E.: Trichinella Spiralis: II. Incidence of Infection in Hogs and Rats in the New Orleans Area, to be published.
- Grant 448, 1937: Warren H. Cole, University of Illinois College of Medicine, \$500, cholesterol tolerance as an index of hyperthyroidism and study of excretory function of the liver. Wachowski, T., and Joffe, H.: Relationship of the Concentration of Iodine in the Gallbladder to the Roentgen Shadow in Cholecystography, Radiology, to be published. Cole, W. H.; Clark, H., and Womack, N.: Preparation of Cholesterol Emulsion for Intravenous Administration, to be published.
- Grant 452, 1937: G. Albin Matson, Montana State University, \$100, antigenic properties of certain chemical substances. Matson, G. A.: Sensitization of Animals Against Chloroform and Bromoform Substitution Products of Ortho-, Meta-, and Para-Chlorobenzaldehyde, *J. Immunol.*, to be published.
- Grant 453, 1937: L. T. Samuels and C. H. Thienes, University of Southern California, \$300, hypophysis in the metabolism of carbohydrate fat and protein. Samuels, L. T.; Reinecke, R. M., and Peterson, W. E.: The Effect of Nutrition on Mammary Growth After Estradiol Administration to Hypophysectomized Rats, *Proc. Soc. Exper. Biol. & Med.*, to be published. Samuels, L. T., and Cohen, R. F.: The Adrenals and the Mobilization of Stored Fat, to be published.
- Grant 455, 1937: Elizabeth S. Russell, Roscoe B. Jackson Memorial Laboratory, Bar Harbor, Me., \$225, genetics of tumors in the fruit fly. See grant 505, 1938. Russell, E. S.: A Comparison of Benign and "Malignant" Tumors in *Drosophila Melanogaster*, *J. Exper. Zool.* **84**: 363, 1940.
- Grant 467, 1937: B. O. Barnes, Rush Medical College, \$300, extract of adrenals. Cornbleet, T., and Barnes, B. O.: Androgenic Substance and Sweat, *Arch. Dermat. & Syph.* **41**: 654 (April) 1940. Barnes, B.: A Simple Method for Assaying Male Hormone in Urine, *Endocrinology*, to be published.
- Grant 471, 1937: Timothy Leary, Office of Medical Examiner, Boston, \$500, early atherosclerotic processes and relation of cholesterol to neoplastic growth. Leary, T., and Weiss, S.: Dissecting Aneurysm of the Aorta in Experimental Atherosclerosis, *Arch. Path.* **29**: 665 (May) 1940.
- Grant 472, 1937: Margaret Lasker, Yonkers, N. Y., \$200, incidence of pentosuria and fructosuria. Lasker, M.: Essential Fructosuria, *Human Biol.*, to be published.
- Grant 473, 1937: Roy H. Turner, Tulane University, \$400, physiology of blood vessels in man. See grant 555, 1939. Isbell, H.: The Human Finger Tip: Surface Area and Volume Correlations, *Human Biol.* **11**: 536, 1939. Turner, R. H.: Studies in the Physiology of Blood Vessels in Man: V. A Microphone Sphygmograph, to be published. Studies in the Physiology of Blood Vessels in Man: VI. A Plethysmographic Method for Measurement of Blood Flow in the Finger Tip, to be published; Studies in the Physiology of Blood Vessels in Man: VII. A Protractor Nomogram for the Measurement of Plethysmographic Records, to be published; Studies in the Physiology of Blood Vessels in Man: VIII. The Use of Jewel Bearing Pinion and Brass Bellows in Recorders for Vascular Studies, to be published; Studies in the Physiology of Blood Vessels in Man: IX. The Rate of Blood Flow in the Distal Segment of the Human Finger, to be published.
- Grant 477, 1937: Irving J. Wolman, University of Pennsylvania, \$335, lipid pneumonia. See grant 517, 1938. Wolman, I. J., and Bayard, A. B.: The Pathology of Experimental Aspiration Pneumonia in Rabbits, to be published.
- Grant 483, 1937: J. M. Johlin, Vanderbilt University School of Medicine, \$250, attenuation of toxins by interfacial adsorption. Johlin, J. M.: Attenuation of Toxins by Interfacial Adsorption, *Proc. Soc. Exper. Biol. & Med.* **38**: 568, 1938; Acceleration of Formal Detoxification of Staphylococcus Toxin by Adsorption, *ibid.* **41**: 135, 1939.
- Grant 492, 1938: Solomon Strouse and B. O. Raulston, University of Southern California, \$500, sodium-potassium relationship in diabetes. Strouse, S.; Buell, F.; Kay, R., and Drury, D.: Sodium and Potassium Salts in the Treatment of Experimental and Human Diabetes Mellitus, *J. Nutrition*, to be published.
- Grant 491, 1938: Charles G. Johnston, Wayne University College of Medicine, \$660, intestinal obstruction. See grant 581, 1940. Abbott, W. O., and Johnston, C. G.: Intubation Studies of the Human Small Intestine: X. A Nonsurgical Method of Treating, Localizing and Diagnosing the Nature of Obstructive Lesions, *Surg., Gynec. & Obst.* **66**: 691, 1938. Johnston, C. G.; Penberthy, G. C.; Noer, R. J., and Kenning, J. C.: Decompression of the Small Intestine in the Treatment of Intestinal Obstruction, *J. A. M. A.* **111**: 1365 (Oct. 8) 1938. Noer, R. J., and Johnston, C. G.: Decompression of the Small Bowel in Intestinal Obstruction, *Am. J. Digest. Dis.* **6**: 46, 1939. Lofstrom, J. E., and Noer, R. J.: The Use of Intestinal Intubation in the Localization of Lesions of the Gastrointestinal Tract, *Am. J. Roentgenol.* **42**: 321, 1939. Penberthy, G. C.; Johnston, C. G., and Noer, R. J.: The Treatment of Adynamic Ileus by Gastrointestinal Intubation, *South. Surgeon* **8**: 416, 1939. Johnston, C. G.: Decompression in the Treatment of Intestinal Obstruction, *Surg., Gynec. & Obst.* **70**: 365, 1940. Penberthy, G. C.; Noer, R. J., and Benson, C. D.: Treatment of Adynamic Ileus by Gastrointestinal Intubation in Children, *ibid.* **71**: 211, 1940. Penberthy, G. C.; Irvin, J. L., and Tenery, R. M.: Fluid, Salt, and Nutritional Balance in Patients with Intestinal Suction Drainage, *Ann. Surg.* **112**: 530, 1940.
- Grant 494, 1938: Catharine Macfarlane, Woman's Medical College of Pennsylvania, \$480, value of periodic pelvic examination in detecting cancer of the uterus. See grant 536, 1939. Macfarlane, C.: An Experiment in Cancer Control, *Bull. Am. Soc. Control Cancer* **21**: 6, 1939. Macfarlane, C.; Fetterman, F. S., and Sturgis, M. C.: An Experiment in Cancer Control, *Am. J. Obst. & Gynec.* **39**: 983, 1940.
- Grant 495, 1938: Lincoln Oppen and Barnett Sure, University of Arkansas, \$600, relation of vascular disease to avitaminosis in the rat. Oppen, L.: Experimental Vascular Disease in Rats Produced by Multiple Depletions of Vitamin A, *Proc. Soc. Exper. Biol. & Med.* **40**: 449, 1939; Influence of Experimental Renal Damage on Toxicity of Hypervitaminosis D in Rats, *Arch. Path.*, to be published.
- Grant 501, 1938: Arthur H. Smith, Wayne University College of Medicine, \$200, serum proteins in relation to blood volume. Smith, A. H.: The Pattern of Serum Protein During Accelerated Growth, *Am. J. Physiol.*, to be published.
- Grant 505, 1938: Elizabeth S. Russell, Roscoe B. Jackson Memorial Laboratory, Bar Harbor, Me., \$250, genetics of tumors in the fruit fly. See grant 455, 1937.
- Grant 506, 1938: Harry Sobotka, Mount Sinai Hospital, New York, \$150, monomolecular layers of physically active substances (refund, \$41.77). Sobotka, H. H.: Monomolecular Saccharase Films, *J. Phys. Chem.*, to be published.
- Grant 507, 1938: Joseph H. Roe, George Washington University, \$500, vitamin C content of plant, animal and tumor tissue. See grant 562, 1939. Roe, J. H., and Hall, J. M.: The Vitamin C Content of Human Urine and Its Determination Through the 2,4-Dinitrophenylhydrazine Derivative of Dehydroascorbic Acid, *J. Biol. Chem.* **128**: 329, 1939. Kassan, R. J., and Roe, J. H.: The Preservation of Ascorbic Acid in Drawn Samples of Blood, *ibid.* **133**: 579, 1940.
- Grant 508, 1938: Louis N. Katz, Michael Reese Hospital, Chicago, \$250, factors influencing activities of the heart. See grant 573, 1940. Katz, L. N., and Lindner, E.: The Reaction of the Coronary Vessels to Drugs and Other Substances, *J. A. M. A.* **113**: 2116 (Dec. 9) 1939. Katz, L. N.: Observations on Cardiac Failure and the Mode of Its Production, Publication 13, American Association for the Advancement of Science, 1940, p. 184.
- Grant 511, 1938: Charles W. Turner, University of Missouri, \$500, relation of thyrotropic hormone of anterior pituitary to pregnancy and lactation. Turner, C. W.: Hormonic Interrelations Between Reproduction, Mammary Gland Growth and Lactation, *Growth* **3**: 323, 1939. Turner, C. W., and Cupps, P. T.: The Effect of Certain Experimental Conditions upon the Thyrotropic Hormone Content of the Albino Rat, *Endocrinology* **26**: 1042, 1940.
- Grant 513, 1938: John S. Lawrence, University of Rochester, \$350, transmissible granulocytopenia in the cat. Lawrence, J. S., and Syverson, J. T.: Spontaneous Agranulocytosis in the Cat, *Proc. Soc. Exper. Biol. & Med.* **38**: 914, 1938. Lawrence, J. S.; Pearce, H. E., and Mider, G. B.: Effect of Experimental Neutropenia on the Healing of Wounds, *Arch. Path.* **28**: 32 (July) 1939. Ackart, R. J.; Shaw, J. S., Jr., and Lawrence, J. S.: The Blood Cell Picture of Normal Cats, *Anat. Rec.* **76**: 357, 1940. Lawrence, J. S.; Syverson, J. T.; Shaw, J. S., Jr., and Smith, F. P.: Infectious Feline Agranulocytosis, *Am. J. Path.* **16**: 333, 1940.
- Grant 516, 1938: Charles O. Warren Jr., Cornell University Medical College, \$300, metabolism of bone marrow. See grant 558, 1939. Warren, C. O., Jr.: The Metabolism of Rabbit Bone Marrow in Serum, *Am. J. Physiol.* **126**: 650, 1939; The Metabolism of Rabbit Bone Marrow in Serum, *ibid.* **128**: 455, 1940; Respiration and Glycolysis of Rabbit Bone Marrow in Serum in Relation to Cellular Components, *ibid.* **131**: 176, 1940.
- Grant 517, 1938: Irving J. Wolman, Children's Hospital of Philadelphia, \$170, lipid pneumonia. See grant 477, 1937.
- Grant 519, 1938: D. B. Phemister and Harwell Wilson, University of Chicago, \$400, mechanism of blood pressure in sympathetomized dogs. See grant 550, 1939. Grimson, K. S.: The Role of the Sympathetic Nervous System and Its Renal and Splanchnic Distribution in Experimental Neurogenic Hypertension, *Proc. Soc. Exper. Biol. & Med.*, to be published; Total Thoracic and Partial to Total Lumbar Sympathectomy and Celiac Ganglionectomy in the Treatment of Essential Hypertension, *ibid.*, to be published.
- Grant 521, 1938: Rucker Cleveland, Vanderbilt University, \$400, cytology of endometrium. See grant 589, 1940. Cleveland, R.: Observations on the Chromatin in the Nuclei of Endometrium from Monkeys under Experimental Conditions, *Endocrinology* **27**: 580, 1940.
- Grant 526, 1938: Charles F. Code, University of Minnesota, \$400, metabolism of histamine. See grant 587, 1940. Code, C. F., and Jensen, J. L.: A Comparison of the Histamine Content of Blood and Bone Marrow, *Am. J. Physiol.* **129**: 336, 1940. Code, C. F., and Varco, R. L.: Chronic Histamine Action, *Proc. Soc. Exper. Biol. & Med.* **41**: 475,

1940. Walpole, S. H.; Varco, R. L.; Code, C. F., and Wangenstein, O. H.: Production of Gastric and Duodenal Ulcers in the Cat by Intramuscular Implantation of Histamine, *ibid.* 44: 619, 1940.

Grant 529, 1939: Helen F. Tucker, Skidmore College, \$175, effect of amino acids on liver lipids (refund, \$53.33). Tucker, H. F.; Treadwell, C. R., and Eckstein, H. C.: The Effect of Supplementary Cystine and Methionine on the Production of Fatty Livers by Rats on High Fat Diets Containing Casein or Edestin, *J. Biol. Chem.* 135: 85, 1940.

Grant 530, 1939: George Herrmann, University of Texas, \$200, chemical changes in heart muscle. Herrmann, G., and Decherd, G. M., Jr.: Some Studies in the Mechanism of Cardiac Hypertrophy, *Ann. Int. Med.* 13: 794, 1939.

Grant 534, 1939: Martin Silberberg, Washington University School of Medicine, \$600, effect of hormones on bone and cartilage. Silberberg, M., and Silberberg, R.: Effect of Potassium Iodide on Bone and Cartilage in Thyroidectomized Immature Guinea Pigs, *Arch. Path.* 28: 846 (Dec.) 1939; Effects of Ovariectomy and Long Continued Administration of Anterior Pituitary Extract of Cattle on Skeletal Tissues of Immature Guinea Pigs, *Ann. J. Path.* 16: 491, 1940; The Effect of Thyroidectomy and Administration of Anterior Pituitary Extract of Cattle on the Growth of Cartilage and Bone of Immature Guinea Pigs, *ibid.* 16: 491, 1940; Changes in Cartilage and Bone of Immature Female Guinea Pigs Due to Undernourishment, *Arch. Path.* 30: 675 (Sept.) 1940; The Response of Cartilage and Bone of the Newborn Guinea Pig to Stimulation by Various Hormones (Anterior Hypophyseal Extract, Estrogen, Thyroxine), *Anat. Rec.* 78: 549, 1940; Age Changes of Bones and Joints in Various Strains of Mice, *Ann. J. Anat.* 68: 69, 1941.

Grant 537, 1939: Herman Kabat, University of Minnesota, \$400, neurophysiologic alterations in anemia of the brain. See grant 586, 1940. Dennis, C., and Kabat, H.: Behavior of Dogs After Complete Temporary Arrest of the Cephalic Circulation, *Proc. Exper. Biol. & Med.* 40: 559, 1939. Kabat, H., and Dennis, C.: Resistance of Young Dogs to Acute Arrest of the Cephalic Circulation, *ibid.* 42: 534, 1939. Kabat, H.: Influence of Pregnancy and Lactation on Susceptibility to Arrest of Brain Circulation, *ibid.* 44: 23, 1940; The Greater Resistance of Very Young Animals to Arrest of the Brain Circulation, *Am. J. Physiol.* 130: 588, 1940.

Grant 540, 1939: James W. Henry, Loyola University School of Medicine, Chicago, \$200, experimental hypertension (refund, \$50). Henry, J. W.: Effect of Magnesium on the Pathogenesis of Hypertension Produced by Renal Ischemia in Albino Rats, to be published.

Grant 543, 1939: F. W. Dunihue, University of Vermont, \$50, action of aspartic acid on bone marrow (refund, \$1.84). Dunihue, F. W., and Candon, B. H.: Histologic Changes in the Renal Arterioles of Hypertensive Rabbits, *Arch. Path.* 29: 777 (June) 1940.

Grant 545, 1939: A. G. Eaton, Louisiana State University Medical Center, \$300, absorption of amino acids. Hall, W. K.; Doty, J. R., and Eaton, A. G.: The Availability of *dl*-Threonine and *dl*-Allo-threonine for the Formation of Carbohydrate, *Am. J. Physiol.* 131: 252, 1940.

Grant 546, 1939: Francis D. Gunn, Northwestern University Medical School, \$400, experimental tuberculosis in dogs. Mills, M. A.; Barth, E. E., and Gunn, F. D.: Experimental Pulmonary Tuberculosis in the Dog, *Am. Rev. Tuberc.* 42: 28, 1940. Colwell, C. A., and Mills, M. A.: Experimental Tuberculosis in the Dog: I. Cutaneous Sensitivity to Tuberculin in the Dog, *ibid.* 42: 259, 1940; Experimental Tuberculosis in the Dog. II. Comparison of Old Tuberculin and Purified Protein Derivative in Intracutaneous Tests, *ibid.* 42: 271, 1940.

Grant 550, 1939: D. B. Phemister and K. S. Grimson, University of Chicago, \$400, mechanism of blood pressure in sympathectomized dogs. See grant 519, 1938.

Grant 553, 1939: Paul L. Day and William C. Langston, University of Arkansas, \$200, nutritional cytopenia in the monkey. Day, P. L., and others: Nutritional Cytopenia in Monkeys Receiving the Goldberger Diet, *J. Exper. Med.* 72: 463, 1940.

Grant 554, 1939: Fritz Schiff, Beth Israel Hospital, New York, \$400, serologic classification of Salmonella. Schiff, F., and Saphra, I.: Variety of Types in Human Paratyphoid C Infections, *J. Infect. Dis.* 66: 97, 1940. Schiff, F., and Bornstein, S.: Hemolytic Effect of Typhoid Cultures in Combination with Pure Lines of Bacteriophage, *J. Immunol.* 39: 361, 1940.

Grant 555, 1939: Roy H. Turner, Tulane University, \$200, physiology of peripheral blood vessels. See grant 473, 1937.

Grant 556, 1939: Owen H. Wangenstein, University of Minnesota Medical School, \$900, physiologic basis of surgical treatment of duodenal and gastric ulcer. Wangenstein, O. H., and others: Gastric Acidity Before and After Operative Procedure with Special Reference to the Role of the Pylorus and Antrum, *Ann. Surg.* 112: 626, 1940.

Grant 558, 1939: Charles O. Warren Jr., Cornell University Medical College, \$262, metabolism of bone marrow. See grant 516, 1938.

Grant 561, 1939: Robert R. Sealock, University of Rochester, \$400, melanin pigmentation. Sealock, R. R., and Silberstein, H. E.: The Control of Experimental Alcaptonuria by Means of Vitamin C, *Science* 90: 2344, 1939. Sealock, R. R., and Silberstein, H. E.: The Excretion of Homogentisic Acid and Other Tyrosine Metabolites by the Vitamin C-Deficient Guinea Pig, *J. Biol. Chem.* 135: 251, 1940. Sealock, R. R.; Goldston, M., and Steele, J. M.: Administration of Ascorbic Acid to an Alcaptonuric Patient, *Proc. Soc. Exper. Biol. & Med.* 44: 580, 1940.

Grant 569, 1940: Israel Davidsohn, Mount Sinai Hospital, Chicago, \$400, bacteriogenic hemagglutination. Davidsohn, I., and Toharsky, B.: The Production of Bacteriogenic Hemagglutination, *J. Infect. Dis.* 67: 25, 1940.

2. INCOMPLETE

A. Work under the grant completed, account rendered of expenses but results not published:

Grant 254, 1932: J. Lisle Williams, Rush Medical College, Chicago, \$200, decreased dextrose tolerance in acute infectious diseases.

Grant 310, 1934: Lay Martin, Johns Hopkins University, \$150, gastric juice. See grant 462, 1937.

Grant 355, 1935: Royall M. Calder, San Antonio, Texas, \$150, mechanism of pneumococcal inflammation.

Grant 410, 1936: H. E. Eggers, University of Nebraska, \$200, effect of tetramethylarsonium gluconate on human cancer.

Grant 462, 1937: Lay Martin, Johns Hopkins University, \$200, gastric juice. See grant 310, 1934.

Grant 479, 1937: Tracy J. Putnam, Boston City Hospital, \$200, injuries to the cervical portion of the cord.

Grant 480, 1937: Amy L. Daniels, State University of Iowa, \$250, relation of fluorine to physiologic function.

Grant 504, 1938: Wallace M. Yater, Georgetown University Medical School, \$500, histopathology of "bundle branch" block.

Grant 518, 1938: Harold D. West, Meharry Medical College, \$100, synthesis of *dl*-threonine. See grant 559, 1939.

Grant 522, 1938: Ludwig A. Emge, Stanford University School of Medicine, \$500, relation of sex hormones to tumor growth.

Grant 542, 1939: Kendall B. Corbin, University of Tennessee, \$200, alterations in the hip after deafferentation.

Grant 559, 1939: Harold D. West, Meharry Medical College, \$50, synthesis of *dl*-threonine. See grant 518, 1938.

B. Active work still in progress:

Grant 413, 1936: Philip Levine, Newark Beth Israel Hospital, Newark, N. J., \$350, bacteriophage action in the dysentery group. Levine, P., and Perlstein, D.: Phage-Specific Heat-Labile Factors in *B. Dysenteriae* Sonne, *Proc. Soc. Exper. Biol. & Med.* 36: 295, 1937.

Grant 441, 1937: Edward S. West and G. E. Burget, University of Oregon Medical School, \$350, diuretic action and chemical metabolism of sorbitol. Todd, W. R.; Myers, J., and West, E. S.: On the Metabolism of Sorbitol and Mannitol, *J. Biol. Chem.* 127: 275, 1939.

Grant 445, 1937: Paul M. Levin, Johns Hopkins University, \$250, cerebral efferent tracts in primates. Levin, P. M.: A Nervous Structure in the Pineal Body of the Monkey, *J. Comp. Neurol.* 68: 405, 1938. Levin, P. M., and Bradford, F. K.: The Exact Origin of the Corticospinal Tract in the Monkey, *ibid.* 68: 411, 1938.

Grant 463, 1937: Jay Conger Davis, Minneapolis, \$600, action of certain drugs on the coronary arteries (refund, \$194.03). Davis, J. C.: Studies on Effect of Aminophyllin on Coronary Blood Flow, to be published.

Grant 474, 1937: Marion Fay, Woman's Medical College of Pennsylvania, \$275, biochemistry of strontium. See grant 552, 1939.

Grant 481, 1937: Warren O. Nelson, Wayne University College of Medicine, \$200, synthetic androgenic substances.

Grant 499, 1938: Robert W. Virtue, University of Denver, \$365, formation of bile acids. Virtue, R. W., and Doster-Virtue, M. E.: Studies on the Production of Taurocholic Acid in the Dog: IV. Cystine, Homocysteine and Thioglycolic Acid, *J. Biol. Chem.* 128: 665, 1939; The Failure of Intravenously Injected Fat to Produce Cholic Acid in the Dog, *ibid.* 133: 573, 1940.

Grant 503, 1938: R. C. Robb, Syracuse University College of Medicine, \$800, diseases in twins.

Grant 510, 1938: Erma A. Smith, Iowa State College, \$150, influence of various substances on gastrointestinal motility.

Grant 512, 1938: Barnes Woodhall, Duke University Hospital, \$350, reactions to implanted Shope rabbit papilloma by cerebral tissue. Woodhall, B.; Graves, R. W., and Beard, J. W.: Experimental Production of Tumors of the Brain with the Shope Rabbit Papilloma, *Arch. Surg.* 38: 457 (March) 1939. Woodhall, B., and Graves, R. W.: Production of Experimental Tumors of the Brain with the Shope Rabbit Papilloma: II, *ibid.* 39: 1041 (Dec.) 1939.

Grant 524, 1938: Ernest Spiegel, Temple University, \$300, physicochemical factors influencing the excitability of the central nervous system. Spiegel, E., and Wycis, H.: Influence of Hypochloremia upon the Convulsive Reactivity, *Proc. Soc. Exper. Biol. & Med.* 42: 400, 1939. Spiegel, E., and Spiegel-Adolf, M.: Mechanism of the Therapeutic Effect of Metrazol and Insulin Convulsions, *ibid.* 42: 834, 1939. Spiegel, E.: Comparative Study of the Anticonvulsant Effects of Various Bromides, *Arch. internat. de pharmacodyn. et de therap.* 63: 464, 1939.

Grant 527, 1938: Alexander Levy, University of Oregon Medical School, \$200, occlusion of the coronary arteries. See grant 577, 1940.

Grant 531, 1939: L. R. Dragstedt and G. M. Dack, University of Chicago, \$600, Bacterium necrophorum.

Grant 532, 1939: Walter Schiller, Cook County Hospital, Chicago, \$200, ovarian tumors.

Grant 533, 1939: Hardy A. Kemp and W. M. Fisher, Baylor University, \$500, venom of southern and southwestern scorpions.

Grant 536, 1939: Catharine Macfarlane, Woman's Medical College of Pennsylvania, \$1,900, value of periodic pelvic examination in detecting cancer of the uterus. See grant 494, 1938.

Grant 539, 1939: Albert V. Hardy, Columbia University, \$500, *Shigella dysenteriae*. Hardy, A. V.: The Mouse Mucin Test in the Study of *Shigella*.

Grant 541, 1939: Henry Laurens, Tulane University, \$350, lowering of arterial pressure by carbon arc radiation. See grant 498, 1938.

Grant 547, 1939: Max T. Schnitker, Toledo Hospital, Toledo, Ohio, \$300, Berger rhythm determinations following cerebral trauma.

Grant 548, 1939: Warren O. Nelson, Wayne University College of Medicine, \$300, relation of the thymus gland to growth and development. Segaloff, A., and Nelson, W. O.: The Thymus-Adrenal Relationship, *Am. J. Physiol.* 128: 475, 1940; Growth of Vitamin Deficient Rats Treated with Thymocrescin, *Endocrinology* 26: 860, 1940; Growth and Development of Six Generations of Albino Rats Under Treatment with Thymocrescin, *ibid.* 27: 693, 1940; Growth and Development of Six Generations of Thymectomized Albino Rats, *Am. J. Physiol.* 130: 671, 1940.

Grant 549, 1939: Felix Saunders, University of Chicago, \$250, growth requirements of pathogenic bacteria. Dorfman, A.; Koser, S. A., and Saunders, F.: Effect of Nicotinamide on Respiration of Dysentery Bacilli, *Science* 90: 2345, 1939. Koser, S. A.; Dorfman, A., and Saunders, F.: Pyridine Derivatives and Other Compounds as Growth-Promoting Sub-

stances for Dysentery Bacilli, *Proc. Soc. Exper. Biol. & Med.* **43**: 391, 1940. Dorfman, A., and others: Quantitative Response of the Dysentery Bacillus to Nicotinamide and Related Compounds **43**: 434, 1940. Bass, A., Berkman, S., and Saunders, F.: An Additional Growth Factor Needed by Some Hemolytic Streptococci, *J. Infect. Dis.*, to be published. Bass, A., and others: Growth Factors for Haemophilus Influenzae and H. Parainfluenzae, *ibid.*, to be published.

Grant 552, 1939: Marion Fay, Woman's Medical College of Pennsylvania, \$250, biochemistry of strontium. See grant 474, 1937.

Grant 557, 1939: W. D. Armstrong, University of Minnesota, \$500, calcification of bone in vitro.

Grant 560, 1939: B. S. Kline and H. P. Lankelma, Western Reserve University, \$500, chemical study of antigens.

Grant 562, 1939: Joseph H. Roe, George Washington University, \$350, vitamin C requirements of man.

Grant 563, 1939: Ben Vidgoff, University of Oregon Medical School, \$300, isolation and effect of the inhibitory hormone of the testes on the endocrine glands. Vidgoff, B., and Velhrs, H.: Studies on the Inhibitory Hormone of the Testes, *Endocrinology* **26**: 656, 1940.

Grant 564, 1939: Robert B. Greenblatt, University of Georgia, \$400, influence of gonadotropic preparations on the human ovary. Greenblatt, R. B., and Torpin, R.: The Evaluation of the Various Gonadotropins: Their Application to Female Endocrine Disorders, *J. M. A. Alabama* **9**: 409, 1940. Greenblatt, R. B., and Krafka, J.: Ruptured Follicle with Ovum in Situ, *Arch. Path.*, to be published.

Grant 565, 1939: Alexander S. Wiener, Office of the Chief Medical Examiner, New York City, \$200, agglutinogens in human blood and the Kline test. Wiener, A. S., and Peters, H. R.: Hemolytic Reactions Following Transfusions of Blood of the Homologous Group, with Three Cases in Which the Same Agglutinin Was Responsible, *Ann. Int. Med.* **13**: 2306, 1940.

3. NO PUBLISHABLE RESULTS OBTAINED

Grant 401, 1936: W. T. Dawson, University of Texas, \$200, toxicity of cardiac glucosides. The grantee died on Sept. 19, 1939.

Grant 431, 1936: Benjamin Harrow, College of the City of New York, \$200, purification of the hyperglycemic factor in urine.

Grant 451, 1937: Frank Co Tui, New York University, \$200, Schwartzman phenomenon and pyrogenic reaction. See grant 528, 1938.

Grant 456, 1937: Ira A. Manville, University of Oregon Medical School, \$500, relation of degenerative changes in connective tissue to glycuronic metabolism.

Grant 464, 1937: Frank W. Allen, University of California, \$200, relation of the nucleotide fraction of red corpuscles to glycolysis. See grant 373, 1935 (1936 report) and grant 418, 1936 (1938 report).

Grant 528, 1938: Frank Co Tui, New York University, \$150, relation between Schwartzman agent and pyrogen. See grant 451, 1937.

Grant 535, 1939: W. R. Tweedy, Loyola University School of Medicine, Chicago, \$200, phosphorus metabolism (refund, \$102.38). Work was discontinued because radioactive material could not be obtained.

Grant 551, 1939: Hugh S. Morgan, Vanderbilt University School of Medicine, \$300, bacterial infections in the chick embryo.

Report of Committee on Therapeutic Research

The Committee on Therapeutic Research, a standing committee of the Council on Pharmacy and Chemistry, encourages scientific investigations in the field of therapeutics by providing funds for the prosecution of necessary research.

During the year 1940 the committee issued thirty-three new grants. A detailed list of these grants, together with a list of publications during 1940 and of unexpired grants made before Jan. 1, 1940, will be found in the appended report.

The following is a list of the investigations conducted with the assistance of grants made by the Committee on Therapeutic Research, reports of which were published during 1940:

The Excitant Action of Morphine on the Cat, W. E. Hamburger: *J. Pharmacol. & Exper. Therap.* **69**: 289 (Aug.) 1940.

The Effect of Sulfanilamide on Blood Sugar and Liver Glycogen, Esther M. Greisheimer, Roberta Hafkesbring and Hulda Magalhaes: *Am. J. Physiol.* **129**: 371 (May) 1940.

The Emptying Time of the Human Stomach After the Administration of Progestin, Clark K. Sleeth and Edward J. Van Lier: *Endocrinology* **26**: 535 (March) 1940.

The Emptying Time of the Normal Human Stomach as Influenced by Sulfapyridine, David W. Northrup and Edward J. Van Lier: *J. Pharmacol. & Exper. Therap.* **70**: 297 (Nov.) 1940.

The Emptying Time of the Normal Human Stomach as Influenced by Acid and Alkali, with a Review of the Literature, Edward J. Van Lier and Clark K. Sleeth: *Am. J. Digest. Dis.* **7**: 118 (March) 1940.

Relation Between Structure of Epinephrine and Ephedrine Homologs and Analogs and Ability to Inhibit Sympathetic Ganglia, Amedeo S. Marrazzi: *J. Pharmacol. & Exper. Therap.* **69**: 294 (Aug.) 1940.

Cobalt Color Reaction of Barbiturates, Richard F. Riley, R. F. Krause, Luville T. Steadman, F. E. Hunter and Harold C. Hodge: *Proc. Soc. Exper. Biol. & Med.* **45**: 424 (Oct.) 1940.

Concentration of Paraldehyde in the Blood Following Its Administration During Labor, Herman L. Gardner, Harry Levine and Meyer Bodansky: *Am. J. Obst. & Gynec.* **40**: 435 (Sept.) 1940.

The Pulmonary and Urinary Excretion of Paraldehyde in Normal Dogs and in Dogs with Liver Damage, Harry Levine, A. J. Gilbert and Meyer Bodansky: *J. Pharmacol. & Exper. Therap.* **69**: 316 (Aug.) 1940.

Determination of Paraldehyde in Biological Fluids, Harry Levine and Meyer Bodansky: *J. Biol. Chem.* **133**: 193 (March) 1940.

Cardiovascular Effects of Potassium, Calcium, Magnesium and Barium, A. W. Winkler, H. E. Hoff and P. K. Smith: *Yale J. Biol. & Med.* **13**: 123 (Oct.) 1940.

The Effect of Magnesium on Neuromuscular and Reflex Activity in Relation to Its Concentration in the Serum, H. E. Hoff, A. W. Winkler and P. K. Smith: *Am. J. Physiol.* **129**: P384 (May) 1940.

Effects of Magnesium on the Nervous System in Relation to Its Concentration in Serum, H. E. Hoff, P. K. Smith and A. W. Winkler: *Am. J. Physiol.* **130**: 292 (Aug.) 1940.

Cardiovascular Changes Following the Intravenous Administration of Barium Chloride, P. K. Smith, A. W. Winkler and H. E. Hoff: *J. Pharmacol. & Exper. Therap.* **68**: 113 (Jan.) 1940.

A Micro-Method for Digitalis Assay, George H. Paff: *J. Pharmacol. & Exper. Therap.* **69**: 311 (Aug.) 1940.

Reversibility of Digitalis Action, George H. Paff and Ben B. Johnson: *Proc. Soc. Exper. Biol. & Med.* **44**: 155 (May) 1940.

Influence of Sex Life upon Resistance to Nostal and Pentobarbital, Harold G. O. Holck and Lewis D. Fink: *J. Am. Pharm. A. (Scient. Ed.)* **29**: 475 (Nov.) 1940.

Reactions of Large and Small Arteries in Man to Vasoconstrictor Stimuli, Alrick B. Hertzman and John B. Dillon: *Am. J. Physiol.* **130**: 56 (July) 1940.

Distinction Between Arterial, Venous and Flow Components in Photoelectric Plethysmography in Man, Alrick B. Hertzman and John B. Dillon: *Am. J. Physiol.* **130**: 177 (July) 1940.

Photoelectric Oscillometry of Large, Small and Smallest Arteries in Man, Alrick B. Hertzman: *Am. J. Physiol.* **129**: 381 (May) 1940.

Studies on the Photoelectrically Recorded Volume Pulses of the Finger Pad of Normal and Pathological Subjects, Alrick B. Hertzman: *Am. J. Physiol.* **129**: 345 (May) 1940.

Effects of Cigaret Smoking on the Skin Circulation, Alrick B. Hertzman: *Am. J. Physiol.* **129**: 357 (May) 1940.

The Plasma Coagulation Time as a Simple Test for Vitamin K Deficiency, Garnett Cheney: *Am. J. M. Sc.* **200**: 327 (Sept.) 1940.

Availability of Staphylococcal Antitoxin After Intramuscular Injection into Normal Monkeys and Men, Charles Weiss: *Proc. Soc. Exper. Biol. & Med.* **43**: 441 (March) 1940.

Effect of Concomitant Administration of Estrogens and Progesterone on Vaginal Smear in Man, Ephraim Shorr: *Proc. Soc. Exper. Biol. & Med.* **43**: 501 (March) 1940.

Effect of Pitressin, the Nitrites, Epinephrine and the Xanthines on Coronary Flow in Mammalian Hearts, Harold D. Green: *Am. A. Advancement Sc.* **13**: 105.

Studies in the Detoxification of Procaine, R. Beutner: *Anesth. & Analg.* **19**: 132 (May-June) 1940.

Evidence for the Local Effect of Mercurial Diuretics, R. Beutner, J. Landay and A. Lieberman Jr.: *Proc. Soc. Exper. Biol. & Med.* **44**: 120 (May) 1940.

Chemotaxis of Monocytes Contrasted with that of Polymorphonuclear Leukocytes and Lymphocytes, Dale Rex Coman: *Arch. Path.* **30**: 896 (Oct.) 1940.

Additional Observations on Positive and Negative Chemotaxis, Dale Rex Coman: *Arch. Path.* **29**: 220 (Feb.) 1940.

Study of Estrin Metabolism, Mary E. Collett: *Proc. Am. Physiol. Soc.* **129**: 336, 1940.

Renal Phosphatase in Experimental Nephropathies, Opal E. Hepler, J. P. Simonds and Helen Gurley: *Proc. Soc. Exper. Biol. & Med.* **44**: 221, 1940.

Metabolism of Free Citric Acid in the Rat, Carl A. Kuether, Curtis E. Meyer and Arthur H. Smith: *Proc. Soc. Exper. Biol. & Med.* **44**: 224, 1940.

The Ultraviolet Absorption Spectrum of Prolactin, Abraham White and G. I. Lavin: *J. Biol. Chem.* **132**: 717 (Feb.) 1940.

Fractionation of Saline Extracts of Anterior Pituitary Tissue, Roy W. Bonsnes and Abraham White: *Endocrinology* **26**: 990 (June) 1940.

Research on Pyrimidines: The Synthesis from Uracil of Pyrimidines Related Structurally to Thiamine, Doris Riell and T. B. Johnson: *Rec. d. trav. Chim. d. Pays-Bas*, edited by the Nederlandsche Chemische Vereeniging, **59**: 87 (Jan.) 1940.

Alkyl Nitrites: VI. A Contribution to the Mechanism of the Action of Organic Nitrites, John C. Krantz Jr.: *J. Pharmacol. & Exper. Therap.* **70**: 323, 1940.

Studies in the Metabolism of Dextrose Fragments in Man, F. E. Beck, R. Musser, C. J. Carr and John C. Krantz Jr.: *Ann. Int. Med.* **14**: 122 (July) 1940.

Urine Excretion During Anoxia from Normal and Denervated Kidneys in Dogs With and Without Adrenal Glands, Louis A. Toth: *Am. J. Physiol.* **129**: 532 (June) 1940.

The Correlation of Antral and Bulbar Pressures with Fluoroscopic Observations During Gastric Evacuation, J. P. Quigley, J. M. Werle and Daniel Brody: *Am. J. Digest. Dis.* **7**: 434 (Oct.) 1940.

Effect of Gastric Filling on Antral and Bulbar Pressure Patterns, Jacob M. Werle, Daniel Brody and J. P. Quigley: *Am. J. Physiol.* **129**: 493 (May) 1940.

Gastric Evacuation: Correlation of Antral and Bulbar Pressure with Fluoroscopic Observations, J. P. Quigley, J. M. Werle and Daniel Brody: *Am. J. Physiol.* **129**: 444 (May) 1940.

Intralumen Pressures of the Digestive Tract, Especially the Pyloric Region, D. A. Brody, J. M. Werle, I. Meschan and J. P. Quigley: *Am. J. Physiol.* **130**: 791 (Oct.) 1940.

The Transmission of Lymphogranuloma Venereum to the Guinea Pig, Arthur W. Grace and Florence H. Suskind: *Am. J. Path.* **16**: 169 (March) 1940.

The Effect of Sulfanilamide on Several Parasitic Infections of Laboratory Rats and Mice, J. T. Culbertson: *J. Parasitol.* **26**: 235 (June) 1940.

The Retardation of Growth by Deuterium Oxide (*Obelia Geniculata*), F. S. Hammett and H. G. Barbour: *Growth* 3: 403 (Oct.) 1939.

The Effects of Repeated Anesthetic Doses of Sodium Amytal and Sodium Barbital, Roberta Hafkesbring, Esther Greisheimer and Hulda Magalhaes: *Vet. Med.* 35: 196 (March) 1940.

Nutritional Muscle Dystrophy and Sex Hormones, Sergius Morgulis and Charles E. Richards: *Endocrinology* 27: 522 (Sept.) 1940.

Effects of Sympathomimetic Amines on Perfused Blood Vessels, M. C. Morton and M. L. Tainter: *J. Physiol.* 98: 263, 1940.

The Influence of the Growth Promoting Hormone of the Anterior Lobe of the Pituitary upon Growth Activity in the Long Bone of the Rat, Evelyn Smith Ross and Franklin C. McLean: *Endocrinology* 27: 329 (Aug.) 1940.

The Native Hormones of the Posterior Pituitary Gland: The Pressor and Oxytocic Principles, Morris Rosenfeld: *Bull. Johns Hopkins Hosp.* 66: 398 (June) 1940.

The Pattern of the Arterial Pressure Pulse Under Different Conditions, W. F. Hamilton: *Am. J. Physiol.* 129: 373 (May) 1940.

Some Pharmacologic Effects of N-Propyl Theobromine, E. Vogt and R. A. Woodbury: *Am. J. Physiol.* 129: 486 (May) 1940.

Blood Pressure Studies of the Effects of Pituitary Preparations on the Human, R. A. Woodbury, W. F. Hamilton and P. P. Volpitto: *Am. J. Physiol.* 129: 500 (May) 1940.

Blood Pressures in Aortic Coarctation, R. A. Woodbury, E. E. Murphey and W. F. Hamilton: *Arch. Int. Med.* 65: 752 (April) 1940.

Blood Volume and Extracellular Fluid Volume of Infants and Children, M. Robinow and W. F. Hamilton: *Am. J. Dis. Child.* 60: 827 (Oct.) 1940.

Comparison of the Action of Choline and Lipocain in the Prevention of Cholesterol Atherosclerosis in the Rabbit, K. R. Andrews and G. O. Brown: *J. Clin. Investigation* 19: 786, 1940.

The Effect of Sodium Chloride on the Glucose Tolerance of the Diabetic Rat, J. M. Orten and H. B. Devlin: *J. Biol. Chem.* 136: 461 (Nov.) 1940.

During 1940 the following grants were made:

Grant 403: Erwin E. Nelson, professor of pharmacology, Tulane University School of Medicine, \$100, to investigate pituitary extracts.

Grant 404: Carl Pfeiffer, Department of Pharmacology, Wayne University College of Medicine, \$300, to investigate caffeine withdrawal headaches.

Grant 405: A. C. Ivy, Department of Physiology, Northwestern University Medical School, \$225, to investigate the effect of gastrectomy on the monkey.

Grant 406: John C. Krantz Jr., professor of pharmacology, University of Maryland, \$250, to investigate the action of the nitrites.

Grant 407: W. F. Hamilton, professor of pharmacology and Physiology, University of Georgia School of Medicine, \$125, to investigate blood pressure and blood pressure reflexes.

Grant 408: Ephraim Shorr, assistant professor of medicine, Cornell University Medical College, \$300, to investigate the effect of progesterone on the vaginal smear.

Grant 409: R. Beutner, professor of pharmacology, Hahnemann Medical College and Hospital, Philadelphia, \$200, to investigate the toxicity and detoxification of local anesthetics.

Grant 410: Linn J. Boyd, professor of pharmacology, New York Medical College, \$100, to investigate the effects of emetine on the heart.

Grant 411: Linn J. Boyd, professor of pharmacology, New York Medical College, \$300, to investigate the effects of hypnotics on mercurial diuresis.

Grant 412: Anne Forbes, Massachusetts General Hospital, Boston, \$400, to investigate the effect of various endocrine diseases and the administration of various endocrine products on the 17-keto-steroid secretion in the urine.

Grant 413: Claude E. Forkner, New York Hospital, Department of Medicine, \$300, to investigate bronchiectasis, etiology and treatment.

Grant 414: Esther M. Greisheimer, professor of physiology, Woman's Medical College of Pennsylvania, \$250, to investigate the effects of sulfanilamide and related compounds on blood sugar and liver glycogen.

Grant 415: B. K. Harned, professor of pharmacology, and V. V. Cole, assistant professor of pharmacology, Woman's Medical College of Pennsylvania, \$300, to investigate the effects of sulfanilamide and sulfapyridine on hepatic function.

Grant 416: Alrick B. Hertzman, associate professor of physiology, St. Louis University School of Medicine, \$500, to investigate peripheral circulation.

Grant 417: H. E. Hoff, assistant professor of physiology; A. W. Winkler, instructor in medicine, and P. K. Smith, research assistant in pharmacology and toxicology, Yale University School of Medicine, \$250, to investigate the action of ions.

Grant 418: Morton McCutcheon, associate professor of pathology, University of Pennsylvania School of Medicine, \$150, to investigate the effect of the sulfanilamide group on chemotaxis of the leukocyte.

Grant 419: Thomas H. McGarack, New York Medical College, \$300, to investigate the action of lipocain and pancreatic extracts.

Grant 420: Lester M. Morrison, Temple University Medical School and Hospital, \$300, to investigate the effect of sulfanilamide on infections of the gallbladder.

Grant 421: Herbert Silvette, assistant professor of pharmacology, University of Virginia Medical School, \$250, to investigate the effects of the antidiuretic hormone of the posterior pituitary gland.

Grant 422: Charles W. Turner, professor of dairy husbandry, University of Missouri College of Agriculture, \$500, to investigate the action of lactogenic hormone in cases of deficient lactation.

Grant 423: Treat B. Johnson, professor of organic chemistry, Yale University School of Medicine, \$250, to investigate pyrimidines.

Grant 424: Charles W. Green, Department of Physiology, Stanford University School of Medicine, \$150, to investigate coronary drugs.

Grant 425: Amedeo S. Marrazzi, Department of Pharmacology and Therapeutics, New York University College of Medicine, \$500, to investigate the action of sympathomimetic amines.

Grant 426: J. P. Quigley, Department of Physiology, Western Reserve University School of Medicine, \$250, to investigate the mechanism of pylorospasm.

Grant 427: Arthur M. Master, the Mount Sinai Hospital, New York, \$500, to investigate the influence of nutrition and drugs on the cardiac output in coronary occlusion.

Grant 428: Milton Kissin, Beth Israel Hospital, New York, \$50, to investigate the influence of aminophyllin among cardiac patients.

Grant 429: John A. Vaichulis, Loyola University School of Medicine, \$300, to investigate the separation of the pressor and oxytocic fractions from the pituitary gland.

Grant 430: J. P. Simonds, Department of Pathology, Northwestern University Medical School, \$100, to investigate the selective action of different types of poisons on the kidneys.

Grant 431: Meyer Bodansky, professor of pathological chemistry, University of Texas School of Medicine, \$200, to investigate the metabolism and pharmacology of paraldehyde.

Grant 432: Abraham White, assistant professor of physiological chemistry, Yale University School of Medicine, \$200, to investigate the anterior pituitary gland.

Grant 433: Harry Beckman, professor of pharmacology, Marquette University School of Medicine, \$250, to investigate the prophylaxis of malaria.

Grant 434: William R. Lyons, Division of Anatomy, University of California Medical School, \$200, to investigate lactogenic hormones.

Grant 435: H. N. Cole, clinical professor of dermatology and syphilology, Western Reserve University School of Medicine, \$330, to investigate the effect of the administration of gold sodium thiosulfate.

The following grants were issued before Jan. 1, 1940. In some cases the grant has expired and an unexpended balance remains; or the work is not yet completed or not yet published.

Grant 164: E. L. Jackson, associate professor of pharmacology, Emory University School of Medicine, \$200, to investigate the antagonism between sodium barbital and insulin.

Grant 221: John G. Reinhold, Department of Public Health, Philadelphia General Hospital, \$250, to investigate the action of aminoacetic acid (glycine) in progressive muscular dystrophy.

Grant 223: Clinton H. Thienes, professor of pharmacology, and Lawrence E. Detrick, Department of Pharmacology, University of Southern California School of Medicine, \$200, to investigate withdrawal phenomena in morphine addicted animals.

Grant 232: George R. Cowgill, associate professor of physiologic chemistry, Yale University School of Medicine, \$250, to investigate the heart in vitamin B deficiency.

Grant 236: C. W. Greene, professor of physiology and pharmacology, University of Missouri School of Medicine, \$100, to investigate the pharmacology of the so-called specific coronary dilator drugs.

Grant 238: Roy R. Kracke, professor of pathology, Emory University School of Medicine, \$250, to investigate the effect of the oxidation products of aminopyrine and related drugs on the leukocyte counts of rabbits.

Grant 248: Fred C. Koch, chairman of the Department of Physiological Chemistry and Pharmacology, University of Chicago, \$250, to investigate the male sex hormone.

Grant 251: Robert Spaeth, formerly of the University of Illinois College of Medicine, \$100, to investigate the titration of the antitoxic value of serum of patients who have received tetanus antitoxin.

Grant 261: Robert P. Walton, professor of pharmacology, University of Mississippi School of Medicine, \$100, to investigate the absorption of drugs through the oral mucosa.

Grant 263: H. A. Shoemaker, associate professor of biochemistry and pharmacology; C. E. Clymer, professor clinical surgery, and Henry H. Turner, University of Oklahoma School of Medicine, \$150, to investigate the blood cholesterol and iodine value in thyroid disease and their alteration by treatment.

Grant 264: Detlev W. Bronk, Johnson professor of biophysics, University of Pennsylvania School of Medicine, \$200, to investigate the action of various drugs on the autonomic centers.

Grant 278: William H. Lewis Jr., assistant clinical professor of medicine, and Arthur C. DeGraff, professor of therapeutics, New York University College of Medicine, \$150, to investigate the function of the heart in relation to age.

Grant 280: John P. Peters, professor of medicine, Yale University School of Medicine, \$200, to investigate by means of intravenous pyelography the state of the ureters and kidneys in a large series of patients after delivery and subsidence of acute signs of toxemia.

Grant 297: Melvin Dresbach, Harvard University School of Medicine, \$250, to investigate the emetic effect of some of the digitalis bodies.

Grant 302: Mary E. Collett, Flora Stone Mather College, Western Reserve University, \$200, to investigate the effect of the female sex hormone on the hot flashes and the basal metabolism of ovariectomized women.

Grant 305: Beverly Douglas, assistant dean and associate professor of surgery, Vanderbilt University School of Medicine, \$250, to investigate the pneumatic (transparent rubber jacket) system in treating extensive wounds.

Grant 306: Edwards A. Park, professor of pediatrics, Johns Hopkins University School of Medicine, \$75, to investigate rickets in the rat and the effect of solution of parathyroid on the circulation of the bone.

Grant 308: Claus W. Jungblut, professor of bacteriology, Columbia University College of Physicians and Surgeons, \$250, to investigate the relation of vitamin C to diphtheria.

Grant 311: Clarence P. Berg, assistant professor of biochemistry, State University of Iowa, \$250, to investigate amino acids.

Grant 314: F. C. Koch, chairman of the Department of Physiological Chemistry and Pharmacology, University of Chicago, \$250, to investigate provitamin D.

Grant 316: Edward Van Liere, professor of physiology, West Virginia University School of Medicine, \$100, to investigate the action of various drugs on gastric motility.

Grant 333: Owen S. Gibbs, chief of Pharmacological Division, University of Tennessee College of Medicine, \$180, to investigate the toxicity of morphine and scopolamine on rats.

Grant 355: Peter K. Knoefel, associate professor of pharmacology, University of Louisville School of Medicine, \$150, to investigate the action of amines, of the epinephrine series and of related substances on the central nervous system.

Grant 356: John B. Lagen, research associate in medicine, University of California Medical School, \$150, to investigate the potassium and sodium ions in the blood of asthmatic patients and in anxiety states.

Grant 358: R. J. Main, associate professor of physiology and pharmacology, Medical College of Virginia, \$100, to investigate the effects of epinephrine and amphetamine on alveolar carbon dioxide in man.

Grant 360: F. C. McLean, professor of pathology and physiology, the University of Chicago, \$125, to investigate the mode of action of dihydrotachysterol (A. T. 10).

Grant 362: James M. Orten, assistant professor of physiologic chemistry, Wayne University College of Medicine, \$150, to investigate the effect of copper and certain other inorganic salts on the hypoglycemic activity of insulin.

Grant 367: Simon Benson, dean of pharmacy, Ferris Institute, \$100, to investigate the therapeutic effects of skin counterirritants.

Grant 370: Harald G. O. Holck, associate professor of pharmacology, University of Nebraska College of Pharmacy, \$250, to investigate the possible effect of aging on the strength of digitalis preparations.

Grant 371: H. N. Cole, clinical professor of dermatology and syphilology, Western Reserve University School of Medicine, \$75, to investigate arsenamine dermatitis.

Grant 374: W. E. Hambourger, assistant professor of pharmacology, Western Reserve University School of Medicine, \$150, to investigate the pharmacology of the central nervous system.

Grant 375: Joseph Seifter, Department of Pharmacology, Western Reserve University School of Medicine, \$250, to investigate the pharmacology of metal alkyls.

Grant 376: R. W. Gerard, professor of physiology, the University of Chicago, \$200, to investigate the therapeutic effect of pyocyanin in schizophrenia.

Grant 377: Harold D. Green, assistant professor of physiology, Western Reserve University School of Medicine, \$250, to investigate the effects of the intravenous injection of various drugs on the coronary flow.

Grant 378: Carl Pfeiffer, Department of Pharmacology, Wayne University, Detroit, \$200, to investigate the diuretic effect of organic mercurials.

Grant 379: H. S. Rubinstein, Sinai Hospital, Baltimore, \$200, to investigate the effect of various hormones on spermatogenesis.

Grant 380: M. L. Tainter, professor of pharmacology, Stanford University School of Medicine, \$250, to investigate sympathomimetic amines.

Grant 384: William Bradford, associate professor of pediatrics, University of Rochester School of Medicine, \$300, to investigate pertussis.

Grant 387: Harold C. Hodge, assistant professor of biochemistry and pharmacology, the University of Rochester School of Medicine and Dentistry, \$250, to investigate the action of barbiturates by the use of the photoelectric colorimeter.

Grant 389: David Marine, Montefiore Hospital for Chronic Diseases, New York, \$200, to investigate iodine-bromine relations in the body.

Grant 390: C. H. McDonald, professor of physiology and pharmacology; R. W. Boyle, assistant professor of physiology and pharmacology, and Kenneth Siler, assistant professor of physiology and pharmacology, University of Arkansas School of Medicine, \$250, to investigate some aspects of cardiac metabolism.

Grant 391: A. R. McIntyre, professor of physiology and pharmacology, the University of Nebraska College of Medicine, \$100, to investigate ouabain and cardiac muscle and metabolism.

Grant 392: Arthur H. Smith, chairman of the Department of Physiological Chemistry, Wayne University College of Medicine, \$200, to investigate the rate of absorption of citric acid and citrates from the intestine, and the relative significance of these compounds as precursors of liver glycogen.

Grant 393: Arnold De M. Welch, formerly of the Department of Pharmacology, Washington University School of Medicine, \$300, to investigate the lipotropic activity of choline, betaine and their derivatives.

Grant 394: Harold W. Werner, assistant professor of physiology and pharmacology, the University of North Dakota Medical School, \$150, to investigate the effects of analeptics in alcohol depression.

Grant 395: R. W. Whitehead, professor of physiology and pharmacology, University of Colorado School of Medicine and Hospitals, \$150, to investigate the influence of electrolytes in anaphylaxis.

Grant 397: G. O. Broun, professor of internal medicine, St. Louis University School of Medicine, \$250, to investigate the prevention and treatment of atherosclerosis.

Grant 399: R. H. Rigdon, associate professor of pathology, the University of Tennessee, Pathological Institute, \$150, to investigate the effect of sulfapyridine on staphylococcus toxin in mice.

Grant 400: Harald Holck, associate professor of pharmacology, the University of Nebraska College of Medicine, \$150, to investigate the relation of sex to drug action.

Grant 402: Harry Beckman, professor of pharmacology, Marquette University School of Medicine, \$250, to investigate the prophylaxis of malaria.

TREASURER'S REPORT

Report of the Treasurer of the American Medical Association for the Year Ended December 31, 1940

Investments (At Cost) as at January 1, 1940.....	\$2,349,263.47
Bonds Purchased (At Cost).....	245,593.75
	<u>\$2,594,857.22</u>
Less:	
Bonds Matured, Sold or Called.....	276,959.38
	<u>Investments as at December 31, 1940.....</u>
	\$2,317,897.84
Balance for Investment January 1, 1940.....	\$ 128,015.89
Interest Received on Investments—Year 1940..	81,278.16
	<u>Uninvested Funds December 31, 1940.....</u>
	209,294.05
Invested and Uninvested Funds as at December 31, 1940.....	<u>\$2,527,191.89</u>

DAVIS MEMORIAL FUND

Balance in Fund January 1, 1940.....	\$7,334.70
Interest Earned on Bank Balance—Year 1940....	91.95
	<u>Funds on Deposit as at December 31, 1940.....</u>
	\$ 7,426.65

HERMAN L. KRETSCHMER, Treasurer.

AUDITOR'S REPORT

January 25, 1941.

To the Board of Trustees,

American Medical Association, Chicago, Illinois.

Dear Sirs:

We have examined the Balance Sheet of the American Medical Association, Chicago, Illinois, as at December 31, 1940, and the statement of Income for the year ended on that date, have reviewed the system of internal control and the accounting procedures of the Association and, without making a detailed audit of the transactions, have examined or tested accounting records and other supporting evidence, by methods and to the extent we deemed appropriate except as hereinafter stated.

The cash and bank balances have been confirmed by count or by certificates from the depositaries. The U. S. Government and other marketable securities were inspected; also, an acknowledgment as to custody of the securities for safekeeping was received from the Continental Illinois National Bank and Trust Company of Chicago.

We did not independently confirm the accounts receivable by communication with the debtors. The accounts receivable were reviewed as to age and collectibility and, in our opinion, the balances are fully realizable. We reviewed the plan and system of control adopted for inventory taking but we did not observe the taking of the inventories nor did we make tests of the physical existence of the quantities recorded.

Expenditures charged to property and equipment accounts during the year, in our opinion, were properly capitalized as representing additions or improvements. The provision for depreciation for the year appears to be adequate.

In our opinion, subject to the exceptions set forth in paragraph three, the accompanying Balance Sheet and related statement of Income present fairly the position of the American Medical Association at December 31, 1940, and the results of the operations for the year, based on the accounting procedures employed by the Association regarding which the following observations are submitted:

(a) In accordance with the established practice of the Association, the accounts as stated do not include (a) unrecorded assets in respect of accrued interest on bond investments, and membership dues unpaid; and (b) provision for accrued property taxes for the year 1940, and sundry unpaid bills and wages.

(b) Subscriptions paid in advance are stated at an estimated amount which is based on cash received in December 1940, on account of 1941 subscriptions. This procedure conforms to the method used in prior years.

(c) Advance payments on publications include an estimated amount (\$126,344.51) for prepaid subscriptions to *HYGIEA*, and the amount (\$20,086.29) received in advance for January 1941, advertising, directory information sales and service.

(d) The buildings of the Association are carried at reproduction values as determined by an appraisal by Holabird and Root as at December 31, 1936, less depreciation accrued to the date of the Balance Sheet. The portion of the depreciation provision for the year applicable to the increase in book value which was recorded at December 31, 1936, as determined by the appraisal, has been charged against the complementary credit included in the Net Worth of the Association in that connection.

We have received a letter from Messrs. Loesch, Scofield, Loesch and Burke, attorneys for the Association, regarding litigation pending against the Association or its officers at December 31, 1940, which states that the following lawsuits had been filed:

Dr. Jean Paul Fernel—\$1,000,000.00 (libel)
Wm. E. Balsinger—\$100,000.00 (libel)
Muriel Longini—\$1,000.00 (claim)
J. Thompson Stevens—\$350,000.00 (libel)
United States of America (conspiracy in restraint of trade)

The attorneys state that in their opinion all of these suits will be defeated.

Fidelity insurance is carried against the undermentioned officers and employees, in the amount stated:

Dr. Olin West, Secretary and General Manager.....\$10,000.00
Dr. Herman L. Kretschmer, Treasurer..... 10,000.00
E. A. Hoffman, Cashier..... 10,000.00
J. E. Hartigan, Assistant Cashier..... 2,000.00
Sundry Employees (thirteen, \$1,000.00 each)..... 13,000.00
Total Fidelity Insurance.....\$45,000.00

We have pleasure in reporting that the books are well maintained and that every facility was afforded us for the proper conduct of the examination.

Yours truly,
PEAT, MARWICK, MITCHELL & Co.

INDEX TO STATEMENTS

	Exhibit
Balance Sheet, as at December 31, 1940.....	"A"
Income Account, for the year ended December 31, 1940.....	"B"
	Schedule
Journal Operating Expenses, for the year ended December 31, 1940	"1"
Association and Miscellaneous Expenses, for the year ended December 31, 1940.....	"2"

EXHIBIT "A"

BALANCE SHEET

AS AT DECEMBER 31, 1940

ASSETS:

Property and Equipment:

Real Estate:

Land—at cost (less valuation adjustment, \$40,000.00) \$ 288,773.98
Buildings—at reproduction cost new (as appraised by Holabird & Root at December 31, 1936), plus additions since at cost \$1,314,113.09
Less—Reserve for Depreciation..... 495,711.67 818,401.42
1,107,175.40

Equipment—at cost:

Machinery\$403,187.38
Less—Reserve for Depreciation 263,494.56 139,692.82

Type and Factory Equipment 60,767.51
Less—Reserve for Depreciation 46,546.78 14,220.73

Furniture and Office Equipment 167,673.21
Less—Reserve for Depreciation 86,519.63 81,153.58

Chemical Laboratory..... 17,992.47
Less—Reserve for Depreciation 9,503.02 8,489.45

Type Metal (Book Inventory)—at average cost 22,365.29 265,921.87

Total Property and Equipment.. 1,373,097.27

Investments—at cost (valuation based on market quotations \$2,408,836.86):
U. S. Government Securities..... 1,553,816.81
Railroad, Municipal and Public Utility Bonds 764,081.03 2,317,897.84

Cash held by Treasurer for Investment... 209,294.05
Cash in Bank and on Hand..... 443,902.07

Accounts Receivable:

Advertising 76,535.75
Co-operative Medical Advertising Bureau 14,556.66
Reprints 4,288.65
Payroll Taxes (Federal and State)—Refund Claims filed or action pending 3,750.23
Directory, 16th Edition—Estimated realizable balance 10,000.00
Miscellaneous—Deposits, Advances, etc... 6,512.70 115,643.99

Inventories of Materials, Supplies, Work in Progress, and Publications.....

Expenditures on Publications in Progress.. 39,077.13
Prepaid Expenses—Insurance, etc..... 4,900.48

Total \$4,575,989.38

LIABILITIES:

Accounts Payable:

Co-operative Medical Advertising Bureau..... \$ 12,671.26
Miscellaneous 11,947.60

Total Accounts Payable..... 24,618.86

Subscriptions Paid in Advance..... 174,994.87

Advance Payments on Publications..... 146,430.80

Net Worth:

Association Reserve Fund..... \$ 350,000.00
Building Reserve Fund..... 450,000.00
Retirement Reserve Fund..... 75,000.00

Capital Account:

Amount thereof as at December 31, 1939....\$3,129,684.04
Add—Net Income for the year ended December 31, 1940 187,768.30
3,317,452.34

Deduct—Amounts transferred during year to Building Reserve Fund (\$50,000.00) and Retirement Reserve Fund (\$25,000.00) 75,000.00 3,242,452.34

Increase in Book Value of Buildings—per Appraisal. 124,481.59
Deduct—Depreciation applicable thereto for years 1937 to 1940, inclusive.... 11,989.08 112,492.51

Net Worth, December 31, 1940..... 4,229,944.85

Total \$4,575,989.38

EXHIBIT "B"

INCOME ACCOUNT

FOR THE YEAR ENDED DECEMBER 31, 1940

Journal:

Gross Earnings:

Fellowship Dues and Subscriptions..... \$ 776,202.44
Advertising 969,581.25
Jobbing 4,921.34
Reprints 1,946.06
Books 16,026.61
Insignia 5,078.71
Miscellaneous Sales 8,116.44

Gross Earnings from Journal..... 1,781,872.85

Operating Expenses—Schedule "1" 1,011,567.33

Net Earnings from Journal..... 770,305.52

Association Income:

Income from \$ 80,571.91
Net Gain on I 1,632.74
Interest on So 2,276.75
Miscellaneous Income..... 9,999.55 94,480.95

Gross Income 864,786.47

Association Expenses—Schedule "2"..... 482,510.35

Miscellaneous Expenses—Schedule "2"..... 194,507.82 677,018.17

Net Income \$ 187,768.30

SCHEDULE "1"
JOURNAL OPERATING EXPENSES
FOR THE YEAR ENDED DECEMBER 31, 1940

Wages and Salaries.....	\$ 504,564.69	
Editorials, News and Reporting.....	7,424.70	
Paper—Journal Stock.....	226,576.52	
Paper—Miscellaneous.....	4,198.83	
Electrotypes and Engravings.....	14,595.03	
Binding.....	354.75	
Ink.....	7,632.58	
Postage—First Class.....	38,075.98	
Postage—Second Class.....	66,511.34	
Journal Commissions.....	20,531.88	
Collection Commissions.....	632.61	
Discounts.....	36,571.55	
Express and Cartage.....	5,405.73	
Exchange.....	2,045.33	
Office Supplies.....	3,355.16	
Telephone and Telegraph.....	3,668.99	
Office Printing.....	9,924.49	
Power and Light.....	13,933.33	
Factory Supplies.....	15,263.58	
Repairs and Renewals—Machinery.....	2,910.84	
Insurance and Taxes.....	26,692.88	
Group Hospital Insurance.....	3,091.61	
Building Expenses.....	37,333.56	
Fuel.....	8,410.51	
Payroll Taxes.....	137.44	
Miscellaneous Operating Expenses.....	22,221.57	
Loss on Metal Dress Sales.....	1,239.30	
Bad Debt Losses and Loss on Sale of Equipment (less Recovery on 1938 Directory—\$1,010.20).....	643.33	
	<u>1,083,948.11</u>	
Depreciation (based on estimated remaining life):		
Building (cost basis).....	\$18,100.23	
Machinery.....	11,632.09	
Type and Factory Equipment.....	1,275.10	
Furniture and Equipment.....	5,777.88	
	<u>36,785.30</u>	
Total.....	<u>1,120,733.41</u>	
Deduct—Proportion of Overhead Expenses charged to other Publications and Departments.....	109,166.08	
Total Journal Operating Expenses.....	<u>\$1,011,567.33</u>	

SCHEDULE "2"
ASSOCIATION AND MISCELLANEOUS EXPENSES
FOR THE YEAR ENDED DECEMBER 31, 1940

Association Expenses:	
Association.....	\$100,596.65
Health Education.....	39,381.11
Pharmacy and Chemistry.....	54,750.36
Chemical Laboratory.....	25,496.47
Medical Education and Hospitals.....	72,593.06
Therapeutic Research.....	8,447.78
Legal Medicine and Legislation.....	31,317.87
Bureau of Investigation.....	15,861.81
Bureau of Medical Economics.....	33,846.55
Council on Foods and Nutrition.....	24,629.54
Physical Therapy.....	21,575.08
Council on Industrial Health.....	12,772.21
Bureau of Association Exhibits.....	13,402.76
Committee on Medical Preparedness.....	27,238.97
Laboratory Depreciation (based on estimated remaining life).....	600.13
Total Association Expenses.....	<u>\$482,510.35</u>
Miscellaneous Expenses:	
Legal and Investigation.....	\$112,345.16
Sundry Publications (net).....	82,162.66
Total Miscellaneous Expenses.....	<u>\$194,507.82</u>

REPORT OF THE JUDICIAL COUNCIL

To the Members of the House of Delegates of the American Medical Association:

The year just completed has been one of comparative quiet and steadiness as far as the Judicial Council has been concerned. There have been few inquiries and complaints and no disciplinary appeals to be reviewed. There have been the usual number of inquiries concerning ethical principles, but there has been evident an inclination to cite particular instances or situations on which judgment, rather than an explanation underlying a principle, is desired. It is seldom that the Council can answer inquiries on specific instances, as all the relating and surrounding circumstances cannot be known to it and these factors must be taken into consideration.

PRINCIPLES, NOT LAWS

In spite of all that has been said during past years in the annual reports of the Council, the impression still prevails among a large section of our membership that the Principles

of Medical Ethics is a code of laws governing the actions of physicians. As long as such impressions obtain, it cannot be said too often that these principles are not laws to govern but are principles to guide to correct conduct. It is evident in the correspondence that in many instances the inquirer, frequently a component society, desires an opinion from the Council in order to prejudge a situation on which action by the society is under consideration. It should be obvious, but apparently is not, that the Judicial Council cannot pass judgment in advance on a situation which later may come under its review on appeal. The Council cannot be an attorney for the societies and later a judge over their actions.

Furthermore, the membership of the Council, even though spread over the United States from New York to Washington and from Ohio to Texas, cannot be familiar with local laws, customs and needs, all of which must be taken into consideration in an interpretation of the Principles as applied to a specific situation. The Principles of Medical Ethics of the American Medical Association in all its statements is based on and covered by the first section; namely, "A profession has for its prime object the service it can render to humanity; reward or financial gain should be a subordinate consideration. The practice of medicine is a profession. In choosing this profession an individual assumes an obligation to conduct himself in accord with its ideals." That statement is the foundation on which all subsequent statements are based and on which they must be interpreted. The principle is the same in all sections of the country, but what may be ethical in one place may be unethical in another as the result of different laws, different customs, different needs of the people. The Judicial Council cannot have knowledge of all these. Each constituent state medical association should have the knowledge in its own state which the Judicial Council lacks, and many of the inquiries coming to the Council should have been addressed to the state associations, the officers of which, because of proximity, are better qualified to advise.

CLASSIFICATIONS OF MEMBERSHIP

In its report for 1940 the Judicial Council advocated examination of the constitutions and by-laws of component and constituent societies and of the Constitution and By-Laws of the American Medical Association particularly in relation to membership and uniformity of classification. The report recommended that the Judicial Council "be directed by the House of Delegates to investigate further the conditions present in the matter of membership . . . and Fellowship . . . and to report, with recommendations, to the House of Delegates at the 1941 annual session." The report also recommended that the Council be directed to continue its study of the Constitution and By-Laws of the Association and to report to the House of Delegates at the annual session in 1941. The report also stated, in reference to resolutions introduced the previous year proposing a rearrangement and rewording of the Principles of Medical Ethics: "There is at present so much turmoil in medical organization and its relation to government that it seems wise to let the muddled waters settle before any consideration is given to so fundamental a feature of our organization as our Principles of Medical Ethics."

At the time of preparation of this report, the case of the *United States of America v. the American Medical Association and others* is on trial in Criminal Division No. 2 of the District Court of the United States in the District of Columbia. The prosecution is still being heard. It is the opinion of the Judicial Council that, at least until the verdict in this court has been rendered, only urgent changes in the Constitution, By-Laws and Principles of Medical Ethics should be made. Organization law and ethical principles have not as yet come under review in this trial, and it is the judgment of the Council that the status quo be maintained until they have.

INSIGNIA FOR MEMBERS OF SPECIAL GROUPS

During the past year an organization having to do with the certification of physicians requested the opinion of the Judicial Council on the ethical standing of their credential holders should they carry or wear a key indicating their membership in that organization or show on their professional stationery a replica of the key together with initial letters indicating

their membership. It was felt that approval of such procedure if given to one group of doctors of medicine could not well be withheld from any other body composed of doctors of medicine desiring to do likewise; that, if such a custom became prevalent, irregular practitioners and cultists would rapidly follow suit; that the display advertising of those least qualified to give good medical care to the public would be most apparent, and that the confusion in the lay mind would lead to much harm to the indiscriminating public. The members of the Council were of the opinion that such procedure would fall within the provisions of chapter III, article I, section 4, of the Principles of Medical Ethics. Publicity is given to this decision because the Council has information that at least one other organization is anticipating a similar procedure.

Respectfully submitted.

GEORGE EDWARD FOLLANSBEE, Chairman.
WALTER F. DONALDSON.
HOLMAN TAYLOR.
JOHN H. O'SHEA.
EDWARD R. CUNNIFFE.

REPORT OF THE COUNCIL ON MEDICAL EDUCATION AND HOSPITALS

To the Members of the House of Delegates of the American Medical Association:

1. The Council on Medical Education and Hospitals has endeavored to perform the functions assigned to it in chapter IX, section 2, of the By-Laws of the American Medical Association, namely: (1) to investigate conditions of medical education, including premedical, undergraduate and graduate medical education, hospitals and associated subjects and to suggest means and methods by which the same may be improved; (2) to endeavor to further the realization of such suggestions as may be approved by the House of Delegates. At the same time there are new conditions to be faced. The Chairman of the Council has well said that the Council should assume responsibility for seeing that medical education and medical institutions are not hampered or destroyed, or even materially handicapped, by any war emergencies and that medical schools should continue to perform their task of preparing as large a number of well trained men and women in the field of clinical medicine as their physical and clinical facilities permit.

2. As of March 1, 1941 sixty-six four year medical schools in the United States are approved, one of which is on probation. In Canada there are nine approved medical schools. In the United States ten schools of the basic medical sciences are included in the approved list, two of them on probation. In Canada there is one approved school of the basic medical sciences. There is also in the United States one school offering only clinical courses which is approved. This institution has announced, however, that it will accept no more students.

Eleven medical schools were visited during the year and from eight special reports of progress were received.

For the session 1939-1940, eleven medical schools officially stated that two years of college preparation were required for admission. Actually, however, only 2 per cent of the students admitted in 1939 had less than three years of preliminary training. For the session 1940-1941, nine schools reported a two year college prerequisite.

3. In the Selective Service Act of 1940 there is no provision for the exemption or deferment of medical students as such. Medical students, like all other students, are placed in class I-D, which grants them deferment until July 1, 1941. In some localities they have been deferred for even longer periods. It should not be necessary to argue that a continuing and undiminished supply of well trained physicians is absolutely essential to the welfare of the nation, and it is urged that the House of Delegates, by all means in its power, bring to the attention of those in authority the disastrous consequences of any interruption or even impairment of the present program for the education of physicians.

4. The faculties of medical schools have been classified with respect to availability for medical service in national defense. An alphabetical list of essential faculty members is now in the possession of the Surgeon General of the United States Army and of the surgeon of each corps area.

The Council's study of continuation courses for practicing physicians is being continued by means of questionnaires, and the results have been published annually in the Educational Number of THE JOURNAL. Beginning in October 1937 nearly every state was visited by a representative of this Council. It is hoped that this study can be continued by field work and questionnaire.

Considerable progress has been made in the compilation of material for a volume to constitute Part II of the Council's study of graduate medical education, which will deal with institutional apprenticeships, namely internships, residencies and fellowships. It is expected that this publication will be available in 1941.

5. Statistics regarding hospitals published in THE JOURNAL for March 15, 1941 were obtained in the customary manner. It is gratifying to record that the Council has again received from hospital authorities the most generous assistance and cooperation. The information requested was supplied by 99.1 per cent of all institutions to which the census blank was sent, representing 99.8 per cent of all hospital beds.

There can be no doubt that the administrative officers of the hospitals are both annoyed and confused by the multiplicity of surveys which are being made. Some of these are quite unnecessary and merely duplicate activities which have long been carried on by other agencies to the satisfaction of all concerned.

According to the published data there were 6,291 hospitals included in the Hospital Register, an increase of 65 over the data published in 1940. The total number of beds was 1,226,245, an increase of 31,219. The number of births totaled 1,214,492, an increase of 117,542. Occupancy in general hospitals was found to be 70.3 per cent. The number of government hospitals increased by 26, a gain of 28,072 beds, while the nongovernment hospitals increased by 39, a gain of 3,147 beds.

Admissions in government hospitals increased from 2,734,375 to 2,853,012 and in nongovernment hospitals from 7,144,869 to 7,231,087. The average daily census in government hospitals was 23,583 higher than in 1939 and in the nongovernment hospitals 9,554 higher.

Occupancy in general hospitals exceeded 70 per cent in fifteen states and 60 to 70 per cent in twenty-five states.

There was found to be more than 5 general hospital beds per thousand of population in six states, 4 to 5 in nine states and 3 to 4 in sixteen states.

6. The Council has collaborated with the American College of Surgeons so that in the collection of hospital data the same forms are used by the two organizations, which the hospital administration is required to fill out only once.

7. On March 1, 1941 there were 730 hospitals approved for the training of interns, a decrease of 6 over a year previous. In these hospitals there were offered approximately 6,700 internships annually. Vacancies or unfilled intern appointments amounted to 615 on Dec. 31, 1940 as compared with 344 for the year previous. On March 1, 1941 there were 610 hospitals approved for residencies in specialties. In these hospitals 5,257 residencies are offered.

8. During 1940, 229 hospitals were inspected by members of the staff of the Council as follows:

Hospitals offering:

(a) Internships	88
(b) Residencies and fellowships.....	59
(c) Internships and residencies.....	76
Hospitals desiring registration.....	6

229

A total of 348 individual residencies and fellowships were investigated in the course of the inspections.

9. The Council is the only agency in a position to do anything about the more than 3,000 small hospitals which are not surveyed by the American College of Surgeons. With an increase in staff which has been authorized by the Board of Trustees, the Council will be able to pay more attention to institutions in this group.

10. The status of that part of the Council's activities which deal with schools for technicians is as follows:

Schools for Clinical Laboratory Technicians:

On approved list beginning of 1940.....	154
Inspected during 1940.....	24
Approved during 1940.....	9
Removed from list.....	9
On approved list March 1, 1941.....	154

Schools for Physical Therapy Technicians:

On approved list beginning of 1940.....	16
Inspected 1940.....	2
Approved during year.....	0
Removed from list in 1940.....	0
On approved list March 1, 1941.....	16

Schools of Occupational Therapy:

On approved list beginning of 1940.....	6
Inspected in 1940.....	0
Approved during year.....	0
Removed from list in 1940.....	0
On approved list March 1, 1941.....	6

11. In 1940, 5,879 physicians obtained their first license to practice medicine. Quality, however, is more important than quantity, and in this respect the situation is less satisfactory. There were 186 graduates of unapproved medical schools admitted to practice in 11 states. A still more serious degradation of the standards of medical practice results from the attempts in recent years to abolish the restrictions which have heretofore governed the practice of osteopathy. In 9 states unrestricted medical licenses have been issued to 118 osteopaths. In 1940 also 1,015 licenses were issued to graduates of foreign faculties of medicine. These data will appear in the State Board Number of *THE JOURNAL*, May 3, 1941.

12. Major publications during 1940 compiled by the Council and widely distributed included:

Hospital Service in the United States.
State Board Number of *THE JOURNAL*.
Medical Education in the United States and Canada.
Proceedings of the Annual Congress on Medical Education and Licensure.
Choice of a Medical School.
Approved Colleges of Arts and Sciences.
Schools for Clinical Laboratory Technicians.
Schools for Physical Therapy Technicians.
Schools for Occupational Therapy.

13. The Council, during 1940, was represented at the following meetings:

American Medical Association, New York.
American Medical Association, Conference on Industrial Health, Chicago.
Annual Congress on Medical Education and Licensure, Chicago.
American College of Surgeons, Chicago.
American Hospital Association, Boston.
Catholic Hospital Association, St. Louis.
Tri-State Hospital Association, Chicago.
Illinois Catholic Hospital Association, Chicago.
American Physiotherapy Association, New York.
American Association of Record Librarians, Chicago.
Association of American Law Schools, Chicago.
National League of Nursing Education, New York.
American Council on Education, Washington, D. C.
Institute for Hospital Administrators, Chicago.
American College of Dentists, Cleveland.

14. Exhibits were prepared for:

American Medical Association.
American College of Surgeons.
American Hospital Association.
Catholic Hospital Association.
Illinois Catholic Hospital Association.
Tri-State Hospital Association.
Annual Congress on Medical Education and Licensure.

15. Dr. Reginald Fitz, Boston, a member of the Council, is making a study of intern health which will, it is expected, be presented before one of the sections of the Scientific Assembly.

16. Concerning the resolution adopted by the House of Delegates in 1938 requesting the Bureau of Medical Economics and the Council to undertake a study of the practice in hospitals of pathology, radiology, anesthesia and physical therapy, it is necessary to report that on account of the extra work involved in the Association's program of national preparedness and because of the handicaps imposed by the Government's prosecution of the officers of this Association, the Bureau and the Council are not yet in a position to report.

Respectfully submitted.

COUNCIL ON MEDICAL EDUCATION AND HOSPITALS
RAY LYMAN WILBUR, Chairman.
FRED MOORE.*
REGINALD FITZ.
FRED W. RANKIN.
CHARLES GORDON HEYD.
H. G. WEISKOTTEN.
J. H. MUSSER.
WILLIAM D. CUTTER, Secretary.

*Deceased April 8, 1941.

REPORT OF THE COUNCIL ON
SCIENTIFIC ASSEMBLY

To the Members of the House of Delegates of the American Medical Association:

Meetings of the Council on Scientific Assembly were held during the annual session of the Association in New York, and the regular interim meeting took place in Chicago on Dec. 13, 1940, at which time the annual conference of the Council with the section secretaries was held.

SECTION ON ANESTHESIOLOGY

The House of Delegates at the annual session in 1940, acting on the recommendation of the Council, created the Section on Anesthesiology, so that there are now seventeen sections of the Scientific Assembly.

The Council appointed the following officers for the new section:

Chairman, Dr. Ralph M. Waters, Madison, Wis.
Vice Chairman, Dr. T. J. Collier, Atlanta, Ga.
Secretary, Dr. John S. Lundy, Rochester, Minn.
Delegate, Dr. Henry S. Ruth, Merion Station, Pa.
Alternate Delegate, Dr. C. F. McCuskey, Glendale, Calif.
Executive Committee: Dr. Henry S. Ruth, Merion Station, Pa.; Dr. John H. Evans, Buffalo; Dr. Ralph M. Waters, Madison, Wis.

CHANGE IN NAME OF SECTION AND REQUEST
FOR NEW SECTION

The Council again considered, at its meeting in December 1940, the proposal to combine the Section on Pharmacology and Therapeutics and the Section on Pathology and Physiology. The recommendation is offered to the House of Delegates that the name of the Section on Pharmacology and Therapeutics be changed to "Section on Experimental Medicine and Therapeutics."

A request was received during the year for the establishment of a Section for the General Practitioner. It was the opinion of the members of the Council that this would be a duplication of existing sections and that, since the scientific programs are being made more in keeping with the interest of the general practitioner, it does not feel that a new section of this type would be desirable.

THE SCIENTIFIC PROGRAM

The Official Program of the Cleveland session is submitted as a part of the Report of the Council on Scientific Assembly.

At the St. Louis session in 1939 the policy of having a part of the program of the General Scientific Meetings composed of contributions from physicians residing in the city in which the annual session of the Association is held was inaugurated and was continued at the New York session last year. This innovation was so favorably received at St. Louis and at New York that the Council has arranged for a similar program at the Cleveland session, at which the General Scientific Meetings on Monday afternoon, June 2, will be devoted to presentations by local physicians. On Tuesday morning, June 3, the General Scientific Meetings will be devoted to a panel discussion on poliomyelitis, and on Tuesday afternoon timely and important discussions on the Relation of American Medicine to National Defense will be presented.

The Council on Scientific Assembly wishes to express its grateful appreciation for the faithful and efficient service performed by the officers of the scientific sections and to extend its thanks to all those who will appear as contributors to the official program.

Respectfully submitted.

JAMES E. PAULLIN, Chairman.
SAMUEL P. MENGEL.
CLYDE L. CUMMER.
J. GURNEY TAYLOR.
A. A. WALKER.
FRANK H. LAHEY, President-Elect.
MORRIS FISHBEIN, Editor, *THE JOURNAL*.
OLIN WEST, Secretary.

} Ex officio.

AMERICAN MEDICAL ASSOCIATION ON TRIAL

THE TRIAL OF THE CASE OF THE UNITED STATES OF AMERICA
VS.

THE AMERICAN MEDICAL ASSOCIATION, A CORPORATION, THE MEDICAL SOCIETY OF THE DISTRICT OF COLUMBIA, A CORPORATION, THE HARRIS COUNTY MEDICAL SOCIETY, AN ASSOCIATION, THE WASHINGTON ACADEMY OF SURGERY, AN ASSOCIATION, ARTHUR CARLISLE CHRISTIE, COURSEN BAXTER CONKLIN, JAMES BAYARD GREGG CUSTIS, WILLIAM DICK CUTTER, MORRIS FISHBEIN, THOMAS ALLEN GROOVER (DECEASED), ROBERT ARTHUR HOOE, ROSCO GENUNG LELAND, THOMAS ERNEST MATTINGLY, LEON ALPHONSE MARTEL, FRANCIS XAVIER MCGOVERN, THOMAS EDWIN NEILL, EDWARD HIRAM REEDE, WILLIAM MERCER SPRIGG, WILLIAM JOSEPH STANTON, JOHN OGLE WARFIELD JR., OLIN WEST, PRENTISS WILLSON, WILLIAM CREIGHTON WOODWARD, WALLACE MASON YATER, JOSEPH ROGERS YOUNG.

(Continued from page 1700)

MARCH 20 (CONTINUED)

TESTIMONY OF DR. MORRIS FISHBEIN

DIRECT EXAMINATION

By Mr. Leahy:

Dr. Morris Fishbein, Chicago, said his official position is Editor of THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION and Managing Editor of all publications. He has the degree of Doctor of Medicine from Rush Medical College of the University of Chicago in 1912. He was born in 1889, July 22. Following graduation in medicine he received the alumni fellowship in pathology from Rush Medical College and was appointed resident physician in the Durand Hospital for Infectious Diseases, of the McCormick Institution for Infectious Diseases, and at the same time assisted the Coroner's Physician of Cook County in the making of postmortem examinations. He began doing postmortem work during the first part of 1912 and continued that through 1912 and 1913. He did not engage in the private practice of medicine. He became assistant to the Editor of THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION on Aug. 27, 1913, and in 1924 was appointed Editor. He had been constantly with the American Medical Association for about twenty-seven years.

Q.—As Editor of THE JOURNAL what was your duty, Doctor?

A.—As Editor of THE JOURNAL I have charge of all material which is published in THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, including the scientific contributions, the editorials, the news material, abstract of scientific literature, answers to questions—all material published in THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION. I take the responsibility for it and am responsible to the Board of Trustees.

Q.—THE JOURNAL is a weekly journal, is it not? A.—A weekly publication.

Q.—What is its distribution? A.—The circulation is 101,300 subscribers.

Q.—Made up mostly of whom? A.—Well, it is made up mostly of physicians, although I venture to say that at least four thousand copies go to libraries, medical schools, institutions of research and similar places.

Q.—Have you yourself been the author of any articles or books? A.—I have written about eighteen books that have been published by various publishers, some medical books and some general advice books; some scientific expositions, some exposures of quackery. I have written several hundred articles, of which six or seven dealt wholly with scientific research.

Q.—Are you a member of any societies? A.—I am a member of the American Association for the Advancement of Science, of the American Public Health Association, of the American Medical Historical Association, a Fellow of the American Medical Association, a member of the Chicago Pathological Society, of the Chicago Society of Medical History, and many other organizations.

Q.—Are you also a member of any of the committees engaged in national defense? A.—I am a member of the Committee on Medical Preparedness of the American Medical Association. I am a member of the Executive Committee of the Division of Medical Sciences of the National Research Council. I am chairman of the Committee on Information of this division of the National Research Council.

Q.—Now, Doctor, with reference to THE JOURNAL itself and more particularly with reference to those articles which are of a scientific nature, what character or type do those articles take? A.—We receive for publication each year three thousand articles that discuss every phase of scientific medicine, including surgery, diseases of the skin and of the nervous system and practically every other disease which may occur to man and even, sometimes, to animals; and we select from those three thousand articles approximately six hundred which are considered acceptable for publication.

Q.—Doctor, in presenting questions of a scientific nature do you present questions which are in any way controversial? A.—Very frequently controversial questions are presented and published from many different points of view. For example, what is the best method of treating pneumonia? Physicians might vary as to certain new techniques. We would naturally present the various techniques.

Q.—Referring more particularly to an answer which was given by Dr. Cabot with reference to scientific articles in THE JOURNAL, you will recall that he stated that some of them were presented in such a way that they could be torn limb from limb. A.—No; I think Dr. Cabot stated that, as far as the scientific aspects of THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION were concerned, he considered it probably the best in the world.

Q.—I think he also stated that there were some of the articles that he thought if they came before scientific bodies could be torn limb from limb. A.—He was referring, I am quite sure, to specific articles not dealing with the scientific aspects of medical science.

Q.—Doctor, do you recall when it was that your attention was first attracted to Group Health Association? A.—Well, I am by profession, at least one profession, a journalist, and I am quite sure that I began to hear vague rumblings concerning something that later turned out to be Group Health Association, fairly early in 1937.

Q.—1936 or 1937? A.—1937. Of course if I started now to go all the way back I would say that I heard the antecedents of Group Health Association discussed at least twelve years ago by Mr. Filene.

Q.—Can you recall now about when in 1937 it was you first heard about Group Health Association? A.—Well, only approximately. I would have no very definite memory of that, I am sure, because, as I heard it, it was probably in the nature of "There is something going on." I cannot tell exactly who may have made the statement to me, but some one must have said to me, some time in the early part of that year, "Some one is figuring on starting another plan in Washington."

Q.—Did you attend the convention of the American Medical Association in June of 1937 at Atlantic City? A.—I did.

Q.—Do you recall whether at that convention you heard anything at all about Group Health Association? A.—I am quite sure I did. My recollection of it is not too bright at this particular moment, but it has been reinforced by attendance in the court, so that I can recall that such a thing went on.

Q.—Do you recall when, following the convention in 1937, if at all, your attention was again attracted to G. H. A.? A.—Well, I left the United States in the middle of July of that year. In fact, I left Chicago on July 12 and went to England as a guest of the British Medical Association, and then went to Sweden, Denmark, Holland, and several other countries, and I did not return until about the first of September. But I now

recollect that on the second day out on the boat I was with Mr. Filene for an hour or two—he happened to be on the boat also—and he did mention the matter to me at that time.

Mr. Lewin:—I object.

By Mr. Leahy:

Q.—Did you, while you were away, and save and except the chat which you had with Mr. Filene, hear anything about Group Health Association? *A.*—Not a thing. I never heard about it nor had anything to do about it at all during that period from July 12 to the first of September.

Q.—Up to the time that you left on July 12, and following the convention at Atlantic City, do you recall that you heard anything about G. H. A.? *A.*—No.

Q.—Did there come a time—*A.*—Just a moment. I believe there was a meeting of the Executive Committee of the Board of Trustees about June 29, and I believe I attended that meeting of the Executive Committee of the Board of Trustees on June 29.

Q.—Do you remember who it was that constituted the Executive Committee of the Board of Trustees at that time? *A.*—It would be my impression—and this, again, is only memory; I cannot be certain—probably Dr. Bloss, Dr. Hayden and probably Charles B. Wright; and at such a meeting Dr. West would be present.

Q.—Were you present yourself? *A.*—I believe I was present.

Q.—Without going into the details, if the Executive Committee at that time took any action whatsoever in which you became interested with reference to G. H. A., tell us what it was. *A.*—I believe that about that time, at that meeting, there was some discussion of Group Health Association, and the suggestion was made that an article be published in *THE JOURNAL* giving available facts concerning the organization.

Q.—Then shortly thereafter I think you stated you went away and were gone for the summer? *A.*—Yes.

Q.—Before you went away and from the time that you had heard the rumblings about G. H. A., as you stated, personally had you done anything whatsoever with reference to finding out anything about G. H. A., its status, or anything of that kind? *A.*—Nothing whatever.

Q.—Had you ever discussed the matter with anybody whom you now can recall, looking toward finding information about G. H. A.? *A.*—As far as I know, nothing whatever.

Q.—Had you ever come to the District of Columbia to interview anybody in the Medical Society here? *A.*—I did not.

Q.—Did you have any correspondence with anybody in the District of Columbia Medical Society? *A.*—I have no recollection of any such correspondence.

Q.—Did you have occasion to meet any committee of the Medical Society of the District of Columbia? *A.*—No; I have never met with any committee of the District of Columbia Medical Society; certainly not on this subject or anything related to it.

Q.—In your capacity as the Editor of *THE JOURNAL*, Doctor, what connection do you keep with the heads of the various bureaus or councils of the American Medical Association? *A.*—Material prepared for publication by the heads of various departments or bureaus or councils and others comes eventually to my desk for publication, and as I have the responsibility for material published in *THE JOURNAL* and am responsible to the Board for such material, I naturally do with such an article—in fact, even scientific articles which would then be referred back to their authors—I naturally do what is called the editing of the material.

Q.—What have you to do in your capacity as editor with the operation or the administration of any of the various bureaus of the American Medical Association? *A.*—I have no authority in the administration of any of the bureaus of the American Medical Association or over any of the councils of the American Medical Association.

Q.—What has been the custom or practice with reference to doing anything with regard to the administration of the various bureaus? *A.*—I certainly make no attempt to administer any of the bureaus. I would say, again, that I take the responsibility for what is published by such a bureau, and am responsible to the Board.

Q.—To be a little more specific, before your going to Europe, as you have related, on the 12th day of July, do you recall now that you ever had a conversation with Dr. Cutter about G. H. A.? *A.*—Certainly not.

Q.—Or Dr. Leland? *A.*—Certainly not.

Q.—Beyond the meeting of the Executive Committee of the Board of Trustees, any meetings with reference to Dr. West about G. H. A.? *A.*—Certainly not.

Q.—Had you ever formulated any plans about G.H.A.? *A.*—Nothing whatever.

Q.—Had you ever discussed anything with anybody with relation to anything affecting G. H. A. other than what you stated the Executive Committee authorized with respect to the publication of articles? *A.*—Nothing whatever.

Q.—After the Executive Committee authorized the publication of articles, what did you do toward collaborating or formulating articles? *A.*—Again I must refer to my memory, and keeping in mind the vast amount of material for which I am responsible as an editor and as an author, I would say that the article came to my desk with a memorandum from Dr. Woodward; that I then indicated certain changes which I thought desirable previously to publication, and that I then probably returned the article to Dr. Woodward, no doubt by a messenger, or perhaps just by dropping it in the basket; that I then returned the article to Dr. Woodward with the statement that I considered certain changes necessary.

Q.—Beyond that what else did you do with reference to the article itself? *A.*—Nothing whatever.

Q.—To be more specific, with reference to those who have been indicted in this case as defendants, Doctor, when, if ever, did you meet Dr. Arthur Carlisle Christie? *A.*—Outside of some meeting that had nothing to do with any of this, a good many years ago, I met Dr. Christie at dinner here in Washington on Feb. 10, 1938.

Q.—Dr. Coursen Baxter Conklin? *A.*—I do not recollect that I met Dr. Conklin.

Q.—Dr. James Bayard Gregg Custis? *A.*—I do not recollect any meeting or conversation with him.

Q.—Dr. Thomas Allen Groover, in his lifetime? *A.*—I had not had any conversation with him on this matter.

Q.—Dr. Robert Arthur Hooe? *A.*—Nothing.

Q.—Dr. Leon Alphonse Martel? *A.*—Nothing.

Q.—Dr. Thomas Ernest Mattingly? *A.*—Nothing.

Q.—Dr. Francis Xavier McGovern? *A.*—Nothing.

Q.—Dr. Thomas Edwin Neill? *A.*—I believe Dr. Neill introduced me at the address which I made at Georgetown University on Feb. 10, 1938.

Q.—Is that the same occasion when you met Dr. Christie? *A.*—Yes. I had dinner on that occasion with Dr. Christie and, I believe, Dr. Cavanaugh and Dr. Gwynn, and then I believe, later, Dr. Neill introduced me to the audience at the forum.

Q.—Dr. Edward Hiram Reede? *A.*—No connection.

Q.—Dr. William Mercer Sprigg? *A.*—No connection.

Q.—Dr. William Joseph Stanton? *A.*—Nothing.

Q.—Dr. John Ogle Warfield Jr.? *A.*—Nothing.

Q.—Dr. Prentiss Willson? *A.*—Nothing, so far as I can remember, and no correspondence and no discussions with any of those gentlemen.

Q.—Dr. Wallace Mason Yater? *A.*—I believe all my correspondence with Dr. Yater has been of a wholly scientific character, dealing with medical publications and books.

Q.—Dr. Joseph Rogers Young? *A.*—Not that I remember.

Q.—Doctor, on your return in September 1937, aside from the publication of the article on Oct. 2, 1937 appearing in *THE JOURNAL*, what else had you to do with reference to anything relating to G. H. A.? *A.*—It would be my impression that I sat with the Board of Trustees at its September meeting previously to the publication of the article, and it would also be by impression that I was present at the meeting of the State Secretaries and Editors, since it was my usual custom to be present at such meetings, and the article itself was published, I believe, previously to the meeting of the State Secretaries. I was probably present also at the meeting of the Board of Trustees in November.

Q.—1937? *A.*—1937.

Q.—Were you present at the meeting of November 6 in which Drs. Woodward, Leland and West met with Dr. McGovern and Dr. Hooe? *A.*—On that day I was in New Orleans.

Q.—How long were you in New Orleans at that time? *A.*—I arrived in New Orleans on the 4th of November and spent about four days there, so that I was there on November 6.

Q.—Do you recall now anything which was said or which was done at the meeting of the Association of editors of the various state and constituent organizations which was held that

fall in Chicago? *A.*—I have, again, a rather dim memory that there was an exposition of the development of Group Health Association; that the general character of the matter was discussed, and, again, reinforcing my recollection to some extent by what I have heard here in the court, I believe an attempt was made to introduce and pass a resolution. But I happen to know that that body has no authority to pass any resolutions that are binding in any way on anybody. That is purely a conference where men discuss affairs, and they can take no action.

Mr. Lewin:—Was that the conference of Secretaries?

The Witness:—State secretaries and editors.

By Mr. Leahy:

Q.—Do you recall anything which was said or done in the meeting of the Board of Trustees which you attended? *A.*—I cannot recall anything special that was done.

Q.—Are you a member of the Board of Trustees? *A.*—No; I have no official position of that character, but as Editor, and being responsible for all the publications and taking orders from the Board of Trustees as to material that is to be disseminated, I sit with the Board at its meetings.

Q.—How many other publications besides *THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION* do you edit for the American Medical Association? *A.*—I am Editor of *Hygieia*, which is the health magazine published by the American Medical Association for the general public. I am editor of the *Quarterly Cumulative Index Medicus*, which is a quarterly index of some fifteen hundred medical periodicals, the material being indexed so that we keep track of what it going on throughout the world. I am also managing editor of a periodical devoted to nervous and mental diseases, one for pathology, one for the nose, throat and eye, internal medicine, surgery, and I am also chief editor of *War Medicine*, which is published in cooperation with the National Research Council and with the cooperation of the Army and Navy and the Public Health Service.

Q.—Doctor, following the meeting of the Board of Trustees in November do you recall whether at any time you had anything to do with G. H. A. in any way, shape or form? *A.*—Well, I made a speech on February 10 at Georgetown University at which some people asked some questions about G. H. A. and in which I gave some discussion of group health in general. I think the title of my address was American Medicine or Medicine and the Changing Social Order, or something like that.

Q.—Was that an open forum? *A.*—It was an open forum conducted by Georgetown University. I think there were about twelve hundred people there, mostly laymen.

Q.—Beyond that can you recall anything else which was done by you or said by you that had any relation to G. H. A.? *A.*—Perhaps in one or two other addresses before public forums elsewhere in the country, not more than two or three—I have tried to refresh my recollection on this by looking through every record I could find—I may have occasionally devoted three or four sentences in my discussion to Group Health Association as just one type of maybe several hundred, if not thousands, of plans that are now being experimented with in this country.

Q.—Did you at any time following your return from Europe confer with any of the members of the District Medical Society? *A.*—I have not so conferred with them at any time. As far as I can remember, I have never had a conference with anybody in the District of Columbia Medical Society on the question of Group Health Association.

Q.—Did you ever attend a meeting of the District Medical Society? *A.*—I believe I did a good many years ago. I spoke at one of their meetings here.

Q.—I mean, during the period in 1937 and down to December 20. *A.*—No meeting in which I had anything to do with Group Health Association.

Q.—Did you ever attend any committee meetings of the District Medical Society? *A.*—I was never invited to attend any committee meeting, and I never go without an invitation.

Q.—Did you ever at any time during 1937 and 1938 discuss with or write to any official of the District Medical Society with reference to Group Health Association? *A.*—In response to the subpoena of the Government I instructed my secretaries to dig out every letter from my files in which they could find that I had had any correspondence that might have even remotely related to this, and I turned over to the Government every such letter. So far as I know there was introduced in evidence here a letter addressed to me by a boy named Fred Hammerly which did not discuss Group Health Association, and I answered his letter. He then responded, and his second

letter I referred to Dr. West. That would be the only correspondence of which I have any knowledge.

Q.—I am going to show you now Exhibit 282 for the prosecution, a letter from Hammerly to Dr. Fishbein. *A.*—I can pretty near tell you what it says, I think.

By Mr. Leahy:

Q.—I now show you this letter. There is only one, I think, that you wrote? *A.*—Yes.

Q.—Is that the letter? *A.*—I am quite sure that is the letter I wrote to Fred Hammerly. That is my letter; yes.

Mr. Leahy:—It is dated Sept. 30, 1938 and addressed to Dr. Fred Hammerly, Brooklyn, N. Y.:

"Dear Dr. Hammerly:

"I am referring your letter of September 24 to Dr. Olin West, Secretary of the American Medical Association, who is a member of the Judicial Council and who can best advise you regarding the question in which you are interested.

"Very truly yours."

By Mr. Leahy:

Q.—Doctor, you were here in the court room, were you not, when Dr. Cabot gave his testimony? *A.*—Yes, sir.

Q.—With reference to that testimony, I want to ask you, Doctor, whether quite a different policy has been established in regard to the section on Medical Economics in *THE JOURNAL* than that which had existed hitherto? *A.*—No doubt Dr. Cabot meant to imply by that statement that we were not as broad in our general admission of discussions relating to so-called medical economic matters as we are in relation to scientific matters. There might be a fair difference of opinion on that point. In fact, I could produce a list of many hundreds of articles discussing every possible aspect of the distribution of medical service.

Q.—Do you edit all the articles on economic questions and medical economics that appear in *THE JOURNAL*? *A.*—I am responsible as editor for every article and, in fact, for everything else that appears in *THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION*.

Q.—What have you to say with reference to the statement that the articles in *THE JOURNAL* are a pretty incomplete statement with very important omissions therefrom? *A.*—That, of course, is to my mind absolutely unwarranted, for the simple reason that I have published many, many articles describing every possible technic in the distribution of medical service.

Q.—On questions wherein there is any discussion whatsoever with reference to medical economics, do you "omit source material so that the busy physician who cannot possibly go to original sources is not able to get a complete picture"? *A.*—Well, if Dr. Cabot meant that I did not publish the twenty-seven volumes of the Committee on the Costs of Medical Care—he may perhaps refer to that as source material—he was correct; obviously we print vast amounts of source material. I might refer, for instance, to an article printed long before Group Health Association appeared on the scene, dealing with various technics for distribution of service and on different types of payment.

Q.—I want to ask you, Doctor, if *THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION* has adopted any policy whereby the possibility of pointing out omissions and weaknesses in articles published has been frowned on? *A.*—I think when Dr. Cabot made that statement he disregarded the fact that I have published on at least five occasions statements made by Dr. Cabot himself, discussing such matters.

Q.—Has *THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION* in its field of discussion of medical economics and such subjects and problems been on both sides for criticism each of the other? *A.*—We have published on many occasions criticism by two sides of various technics for the distribution of medical service. In that connection it is obviously the duty of an editor always, first of all, to protect his reader, so that if an article is received with obvious misstatements of fact it would be a very poor editor who would publish it just because it came from the opposite side.

Q.—I wish to show you, Doctor, a couple of letters in which your name has been mentioned. Will you kindly look at that and see if you can identify it in any way? *A.*—That is a letter which I wrote.

Q.—I am going to show you a carbon copy of a letter which has been identified as Exhibit 281 and offered in evidence under that identification number, dated Sept. 19, 1938 and ask you if you had anything to do with the writing of the original of which that appears to be a carbon? *A.*—No. That deals with a letter which was sent to me by Dr. Arthur W. Erskine on Sept. 19, 1938 and in my reply I told him that I had read his letter with interest and was sending it to Dr. West.

Q.—This is a letter dated Aug. 27, 1938. A.—To Mr. M. K. Heartfield, Washington, D. C. The letter was written on Aug. 27, 1938.

Q.—Have you any independent recollection now with reference to the occasion of your writing the letter of Aug. 27, 1938? A.—I believe that Mr. Heartfield, who is a citizen of Washington, D. C., was visiting in Chicago and I played golf with him; in the course of playing golf, knowing that he had a good many employees in his plant, and being, as I have stated, journalistic by instinct, I asked him as to how his employees felt about all this excitement down here, that I knew was going on in Washington.

Mr. Leahy:—Exhibit 291-A, dated Aug. 27, 1938, is on the official stationery of THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, addressed to Mr. M. K. Heartfield, Washington, D. C.:

"Dear Mr. Heartfield:

"I appreciate your letter of August 23, together with the information that it contains. This is most heartening as indicating the public reaction in Washington toward Group Health Association activities. I am referring your letter to Dr. Olin West, Secretary of the Association, and Dr. R. G. Leland.

"With best wishes and with the hope of seeing you sometime soon, I am
"Sincerely yours."

Exhibit 281 is a carbon copy of a letter dated Sept. 19, 1938, addressed to Dr. Arthur W. Erskine at Cedar Rapids, Iowa, and it reads as follows:

"I have read with great interest your letter of September 9 and also the material sent to you by A. H. Woods. I am sending your letter also to Dr. Olin West, since it is addressed jointly to him. I believe that the action taken by the House of Delegates, which is reported in THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION for September 24, will indicate to you the progress that has been made. I will be much interested in hearing your comment as to the action taken by our House of Delegates.
"Very truly yours."

By Mr. Leahy:

Q.—Do you know whose initials they are that appear on that? A.—"Z. W." is one of my secretaries.

Q.—Doctor, you are familiar, are you not, with the Principles of Medical Ethics of the American Medical Association? A.—I would say that I am familiar. I lecture on the history of medical ethics in a medical school.

Q.—Do you know how long the fundamental principles of medical ethics have been in force? A.—That question has been answered by six or seven previous witnesses, and it is a very, very difficult question to answer in a single sentence. If you cared to take a minute and a half I can probably answer it.

Q.—I will not take quite that much time. Do you recall when the framework of the principles occurred? A.—The framework was developed in Manchester, England, and was first published in 1803. It was first published after Percival secured opinions from Erasmus Darwin, William Heberden, and William Withering and others had given their opinions. The first draft was published in about 1803, and a modified draft was adopted by the American Medical Association in 1848. It was written by Isaac Hayes, who was then editor of the *American Journal of the Medical Sciences* in Philadelphia. Since that time there have been modifications of the fundamental principles primarily with the object of covering new developments in both the scientific and what might be called the general nature of medical practice.

Q.—I want to ask you whether, under those principles of Medical Ethics as interpreted by the American Medical Association and its affiliated constituent and component societies, they can and frequently do condemn as unethical group medical practice on a risk-sharing prepayment basis, principally because such practice is in business competition with and threatens the incomes of doctors engaged in practice on a fee-for-service basis, and particularly of doctors so practicing who are members of defendant American Medical Association and its affiliated constituent and component societies? A.—To use a phrase which I sometimes use in addressing the public regarding various other matters, I would say that there is not the slightest scientific or authentic evidence in support of such a statement.

Q.—Are the American Medical Association and its affiliated constituent and component societies interpreting the rules of ethics principally because, in so far as the risk-sharing prepayment basis of medical practice is concerned, there is competition from the money angle between fee-for-service practice as compared with group practice? A.—Again, I would say that from long tradition everything that is taught to every medical student in every qualified medical school is absolutely opposed to any such concept of medical practice.

Q.—I want to ask you, Doctor, whether at any time, anywhere, you ever combined and conspired together for the purpose

of restraining trade in the District of Columbia? A.—Absolutely not.

Q.—Did you (1) combine and conspire together with anybody at any time at any place for the purpose of restraining Group Health Association, Inc., in its business of arranging for the provision of medical care and hospitalization to its members and their dependents on a risk-sharing prepayment basis? A.—No.

Q.—(2) For the purpose of restraining the members of Group Health Association, Inc., in obtaining by cooperative efforts adequate medical care for themselves and their dependents from doctors engaged in group medical practice on a risk-sharing prepayment basis? A.—No.

Q.—(3) For the purpose of restraining the doctors serving on the medical staff of said Group Health Association, Inc., in the pursuit of their calling;

(4) For the purpose of restraining doctors, not on the medical staff of Group Health Association, Inc., practicing in the District of Columbia, including the doctors so practicing who are made defendants herein, in the pursuit of their calling;

(5) For the purpose of restraining the Washington hospitals in the business of operating such hospitals.

Doctor, did you ever do anything, write anything, or discuss with anybody anything, with reference to the Washington hospitals during this period from January 1937 to December 1938? A.—Absolutely no.

Q.—Do you know anybody on the staff of Group Health Association? A.—No.

Q.—Did you ever, Doctor, at any time, endeavor or try to restrain anybody from becoming a member of the staff of Group Health Association? A.—Never.

Q.—Do you know anybody who is or ever was a member of the staff of Group Health Association? A.—That takes in a lot of territory, but to my knowledge I don't know now anybody on that staff and I can't say I know anybody who ever was on the staff of Group Health Association.

Q.—Did you ever, Doctor, do anything for the purpose of hindering or restraining Group Health Association, Inc., or any of its staff, or anybody else connected with Group Health, in any manner whatsoever? A.—No.

Q.—Do you know where the Group Health Association Clinic is? A.—I have heard it mentioned as being on I Street, and have heard the number, 1328 I Street, but I don't know where I Street is.

Q.—Did you ever go in there? A.—No.

Q.—Did you ever do anything so far as Group Health is concerned in the way of restraining them from conducting, operating, maintaining or otherwise carrying on this clinic? A.—No.

Q.—Is there anything which has escaped my attention in inquiring of you with reference to any connection which you may have had with reference to Group Health, which you can recall at this time? If there is, I wish you would suggest it. A.—I believe I published a current comment in THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION somewhere along in December 1938 covering the hearings which had been held in Congress on the question of appropriations, pointing out that the report made on those by an organization in New York had so mutilated the report as to give a false impression of what had happened in the Congressional hearing. That was Congressman Woodrum's hearing. Outside of that, I have no other knowledge; that is my best recollection.

CROSS EXAMINATION

By Mr. Lewin:

Q.—I have only one or two questions. You work on a salary, do you not? A.—Yes.

Q.—And don't you work for a large corporation? A.—Fairly large.

Q.—On a salary? A.—Yes.

Q.—You told us, I believe, that when you asked Mr. Heartfield for a report on the situation in Washington, it was simply because you were journalistically minded? A.—I think so.

Q.—You wanted the news, whether good or bad; that is all you wanted? A.—What I wanted, and what I asked Mr. Heartfield specifically for, was this: He has a good many employees in his business here and, as I remember it, I said to him "I wonder how all this excitement interests the average citizen in Washington," I was interested in simply that one point, and I asked him to ask some of his employees what their reaction was to this whole thing.

Q.—You were simply interested in finding out the facts, whatever it might be, whether the news was good or bad? A.—Nobody wants bad news, but I was interested in the news.

Q.—And when you got the news it was mostly adverse to Group Health Association? A.—Frankly, I can't remember much about it. He found a disinterest among his employees.

Q.—Didn't you tell us that was heartening to you? A.—Interesting and heartening.

Q.—Heartening, not because it was just news, but because it was adverse to Group Health? A.—I wouldn't say that. That is not my interpretation. To me it was interesting that a movement that had so much pressure behind it interested so few.

Q.—The thing that was heartening in it was that you thought it was true? A.—Are you interested in my emotional reaction?

Q.—I want to know your mental state; you can keep the emotions out of it. A.—I said in the letter "This is heartening news"; I think it was heartening.

Q.—Let me ask you this: I think you attended this conference of secretaries and editors? A.—I think so; I am not sure.

Q.—And didn't you say you remembered some action being taken there? A.—I said I believe some one had attempted to offer a resolution but I said that from my knowledge of the nature of the organization that body is not authorized to adopt resolutions.

Q.—But you do remember that somebody did attempt to offer a resolution? A.—I think so.

Q.—And that you remember that the resolution was passed? A.—That I don't remember, and even if it was passed it would still have no effect.

Q.—I wasn't asking you about the effect; I was asking you whether it was passed. A.—I really don't remember.

Q.—I will hand you a photostatic copy of what purports to be your note to Dr. West and ask you if you can identify that. It is 287 for identification, it is not in evidence. A.—The note is mine unquestionably, to Dr. West.

Q.—Does it refer to an attached document? A.—It says "This copy of a resolution adopted by the secretaries of the state medical societies apparently did not fit in suitably any place in the minutes. I suppose you will file it."

Q.—This attachment is the resolution which they passed, is it not? A.—I don't know whether they did. He said "adopted." Yes, they passed it, and probably I didn't print it because they had no authority to pass it.

Q.—You said because it didn't fit in well with the minutes. A.—Those were not my words: I said "didn't fit in suitably."

Q.—I stand corrected. Now, that indicates it was an extraordinary action on the part of the secretaries to do that, doesn't it? A.—An action they had no authority to take.

Q.—But a little unusual? A.—No, in the height of their enthusiasm within the past several years they have passed several resolutions without authority.

Q.—You have no doubt that was a resolution that they passed? A.—If it is here I have no doubt they passed it.

Mr. Lewin:—I offer it in evidence.

Mr. Leahy:—I object to it; it seems to me it was offered once and rejected.

Mr. Lewin:—Yes, but in another connection.

By Mr. Lewin:

Q.—Are Dr. Conklin and Dr. Yater of the District Medical Society members of that conference? A.—I wouldn't know; you see there are forty-eight secretaries and twenty-seven editors, and I wouldn't remember that.

Mr. Lewin:—I think the record shows they were.

THE COURT:—I ruled this out once?

Mr. Lewin:—Yes, but this is on a different basis.

THE COURT:—Objection sustained.

By Mr. Lewin:

Q.—Dr. Fishbein, I think you took the responsibility for everything published in THE JOURNAL? A.—Subject to the auspices of the Board of Trustees.

Q.—And that means you took responsibility for a certain article published Oct. 2, 1937 in THE JOURNAL with respect to Group Health Association? A.—Yes.

Mr. Lewin:—That is all.

MARCH 21—MORNING

Mr. Leahy:—There are some by-laws which must be read some time. If the Court please, these are the by-laws of Group Health Association, Incorporated:

(Mr. Leahy then read the by-laws indicating the amendments made at various times. These will be published in full in the reprints of this testimony.)

TESTIMONY OF DR. CHARLES S. WHITE

DIRECT EXAMINATION

By Mr. Leahy:

Charles S. White, 1801 Eye Street N. W., Washington, D. C., said he is a surgeon. He graduated in 1898 and has specialized in surgery from 1908 to the present time. After graduation from George Washington University he spent two years in private practice and eight years in hospital experience at Emergency, George Washington and Columbia Hospitals and part of the time in New York. He is now professor of surgery in George Washington and head of the Department of Surgery in Gallinger and Doctors hospitals, and on the consulting board of four or five others, including Emergency, Garfield and Providence. He is head of the Department of Surgery in George Washington University Hospital and on several committees; on administration, and on admission to hospital privileges. He has been on the committee on admissions since 1934.

Q.—What is the Committee on Admissions at George Washington? A.—It is a committee composed of Dr. Mallory, Dr. Howard Kane and myself, to whom all requests for the privilege of practicing any branch of medicine in the hospital are referred. This committee makes a report to the staff, and the staff acts on these applications. We act as a small group to classify these applications and submit a report on the qualifications of any of these men who apply for privileges. Dr. Mallory has medicine; Dr. Kane, obstetrics and gynecology, and I have surgery.

Q.—You make a report to what staff? A.—The staff of the University of George Washington Hospital.

Q.—Who composes the staff; I do not mean the actual names, just generally? A.—I would say about forty or fifty men who have the privilege of practicing there, and teaching privileges, and certain duties regarding patients assigned to them; the teaching staff largely.

Q.—Does George Washington have two types or characters or forms of staff? A.—They have an appointed staff and then a courtesy staff, men who have no official connection with the hospital but who are allowed to visit the patients in it if they can qualify for such privileges.

Q.—By whom is the appointed staff appointed? A.—By the Board of Trustees of the University, I would say; that is the way I received my appointment.

Q.—Are you a member of the Board of Trustees? A.—No, sir.

Q.—You said your committee on applications, having investigated the application, referred it to a staff; to which staff are applications made? A.—The appointed staff.

Q.—What is the distinction between the appointed and courtesy staffs? A.—The appointed staff is appointed by the University authority to take care of patients, mostly free patients in the hospital and university; the courtesy staff is composed of those who are practicing physicians in Washington who can take a private patient there and treat such private patient themselves.

Q.—Doctor, what is the practice in George Washington with reference to admissions to the courtesy staff privileges? A.—Applicants who wish to avail themselves of this privilege have to fill out a printed form, in which they state their qualifications, their age, where they graduated, and the usual information regarding the education; the society to which they belong; the medical papers which they have written; what experience they have: this is on a printed form. This application then is read before the staff at a regular meeting, stating this Doctor So and So, with his qualifications, has applied for membership or privileges on the staff. Then these applications are turned over to me as Chairman of that committee. I sort them then: that part relating to surgery I keep, those relating to medicine go to Dr. Mallory; and those to obstetrics and gynecology are referred to Dr. Kane. I refer mine to the Academy of Surgery, because in 1934 or 1935 we decided to turn over to the Academy all applications for investigation by the Academy of any one applying for privileges in surgery in the hospitals in Washington. They try to make it a standard type of investigation, and our organization, that is the staff of George Washington—agree to send all our applications to this Academy of Surgery to act in an advisory capacity to us. So I take these applications and send them to the Secretary of the Academy of Surgery. He in turn, I presume, investigates them and sends us back the report, and when I receive that I take it back to the next regular meeting of the staff and read it and ask the staff to vote, or the Dean who presides, asks them to vote on the applicant; whether he will be admitted, whether action will be deferred, postponed, or denied; and depending on their action the applicant is notified of such action; and that is the end of my connection with it.

Q.—Is that the general routine for every application of that nature? A.—That is the actual routine; has been since 1934 or 1935.

Q.—Since you have been connected with the George Washington Hospital, or any of them here in Washington, what has been the practice of all the hospitals to your knowledge with reference to the right of a doctor to practice in a hospital without having obtained privileges to the staff? A.—No hospital permits a man to practice without such privileges unless it is a grave emergency; then, sometimes that is waived until he can make out the proper application.

Q.—Is that true of all hospitals? A.—All as far as I know. Q.—After the medical staff has voted on an application, is that application referred to any other governing body? A.—No, it goes to the Dean, or superintendent of the hospital, who happens to be the Dean, Dr. Hoedorn, and I think his secretary takes the matter up from that point on.

Q.—Are you a member of the Academy of Surgery? A.—Yes.

Q.—Are you on any committee of the Academy of Surgery which has to do with the investigation of qualifications of applicants to practice medicine? A.—Yes.

Q.—Do you recall an application having been made to George Washington University Hospital by one Dr. Raymond E. Selders? A.—I know there was one made by him, but I don't know the exact date.

Q.—Some time in November 1937, did you know a Dr. Raymond Selders personally? A.—No.

Q.—Have you ever met him? A.—No.

Q.—Now, when his application came into George Washington Hospital did you personally have anything to do with it? A.—No, his application came in and it was filed in the proper form, and turned over to me with the usual type of applications on a printed form; then I had something to do with it.

Q.—Do you recall how it happened to come to you, if it did? A.—That is the routine procedure. It goes to the administrator of the hospital and he in turn reads that out at the staff meeting, and turns them over to me. That is how I received it.

Q.—What did you do with it when you got it? A.—I referred it to the Academy of Surgery; that was the routine method of handling it.

Q.—Doctor, has the reference of any application for courtesy privileges in George Washington Hospital, or in George Washington University Hospital, to the Academy of Surgery anything to do with Group Health Association? A.—No, not so far as I know; I think I know.

Q.—How frequently or often are you compelled to turn applications, or do you turn applications over to the Academy of Surgery of those making application to George Washington Hospital? A.—All I get that apply for surgery are turned over to the Academy. I suppose in the course of a year, fifteen or twenty; sometimes each month, or sometimes we will skip a month, or two, but it is routine in my practice.

Q.—Do you recall whether you received any information from the Washington Academy of Surgery upon the application which you had forwarded of Dr. Raymond E. Selders? A.—Yes.

Q.—Doctor, did you, as Chairman of that committee, do anything to delay action on the application of Dr. Raymond E. Selders? A.—I had nothing to do with his application after it was turned over to the Academy of Surgery. As soon as we got it back it was read before the meeting of the staff of George Washington University Hospital. There is a period in the year when there is a vacation, during the summer months, and that would be the only delay that I can think of.

Q.—After you received word from the Academy of Surgery with reference to the application of Dr. Selders, did you intentionally delay in any way bringing the matter before the board of the George Washington University Hospital? A.—I don't think it was delayed at all. It went through the usual routine, like other applications.

Q.—Did you at the time know that Dr. Raymond E. Selders was connected with Group Health Association? A.—Oh, yes; I knew that.

Q.—How did you know it? A.—By reading the newspapers.

Q.—Was there a good deal about it in the newspapers at the time? A.—As far as I could see, it was all over the papers, including the front page.

Q.—Did the fact that you knew that Dr. Raymond E. Selders was connected with Group Health Association have anything whatsoever to do with you in your conduct of dealing with the application of Selders in your committee, either after it was received or after it was returned to you from the Academy of Surgery? A.—Had nothing whatsoever to do with it.

Q.—Was the recommendation of the Academy adverse or favorable? A.—Adverse.

Q.—What did the Board do then, upon the recommendation of the Academy of Surgery? A.—His application was turned in to the Dean who presided at the staff meeting, with the notation that the Academy did not approve of his application. It was then put to a vote, submitted to the open staff meeting, and the staff voted not to give him the privileges.

Q.—Were you present at that meeting, Doctor? A.—Yes, sir.

Q.—Was anything said as the basis for rejecting the application of Dr. Raymond E. Selders—that it should be so rejected because he was a member of G. H. A.? A.—No, sir.

Q.—What influence, if any, did his membership on the G. H. A. staff have on the vote of the Board? A.—Nothing, so far as I know. The committee, you mean?

Q.—Yes. A.—Nothing whatsoever.

Q.—Upon what was the vote of the staff based, to your knowledge? A.—It was based solely, I believe, on his professional qualifications.

Q.—Outside of the report which you received from the Academy of Surgery, did your own committee on investigations make any independent investigation into the qualifications of Dr. Selders? A.—No, sir.

Q.—Doctor, do you recall whether at the same time you voted on the qualifications of Dr. Selders you voted on the qualifications of other doctors? A.—Yes, sir.

Q.—Were some of the other doctors rejected also? A.—Yes, sir.

Q.—Was there anything which was done with reference to the application of Dr. Selders which differed from that which was done with reference to the application of any other doctor who was seeking surgical privileges in George Washington University Hospital? A.—In no way whatsoever.

Q.—Will you kindly explain to the jury what an application for general surgical privileges in a hospital means? A.—It means the privilege of operating on any one you might send there as a patient, and do any operation that you think the patient requires, without any supervision of any sort. In other words, you are allowed to have complete charge of the patient and do a major operation, open the abdomen, or anything you want. It is the highest privilege that you can give a doctor, I think, to do general surgery, without any limitations. That is what it means. And we scrutinized these applications pretty closely, because we think a hospital is more or less responsible for the work that is being done, and for that reason we feel that a man who can do any sort of an operation without supervision should be a first class surgeon.

Q.—What would you say with reference to his experience? A.—We feel that he cannot be good unless he has had a large amount of experience.

Q.—You said in the course of your answer, Doctor, that one who received a general surgical privilege could operate without supervision. What do you mean by "without supervision"? A.—Sometimes a man is allowed to operate while some older man stands by, and we say he is allowed to have certain privileges under supervision, to encourage younger men to get proper experience. Without supervision, we mean that a man may go into the hospital and do as he pleases with the patient if the patient permits him to do it.

Q.—Does a resident have the right to operate without supervision in a hospital? A.—Only in the case of extreme emergency, where he could not get a member of the staff.

Q.—Otherwise, what is the practice? A.—He is merely an assistant or sometimes operates under the supervision of the attending surgeon.

Q.—Are you a member of the District Medical Society, Doctor? A.—Yes.

Q.—And of the American Medical Association? A.—Yes, sir.

Q.—What office, if any, do you hold in the District Medical Society? A.—At the present time I am on some committee that has to do with compensation claims and adjustments, or anything of that sort.

Q.—Any other committees? A.—No, sir.

Q.—Do you hold any office in the Academy of Surgery? A.—No, sir.

Q.—Have you ever held office in the Academy of Surgery? A.—I have been president of it.

Q.—When were you president? A.—I think, the first year it was organized, about 1930, I suppose.

Q.—Did you ever hold any office in the District of Columbia Medical Society? A.—Yes. I have been president of that.

Q.—When were you president of the District of Columbia Medical Society? A.—I think, in 1927.

CROSS EXAMINATION.

By Mr. Lewin:

Q.—Dr. White, did you know about the correspondence which Dr. Cutter had had with Dr. Bloedern in the fall of 1937? A.—No, sir.

Q.—Did you know about any efforts on Dr. Cutter's part to have your staff confined to members of the A. M. A. and the local societies? A.—I saw no correspondence and I don't remember having any conversation regarding it.

Q.—There is some correspondence of that character in evidence. I wondered if it would refresh your recollection at all. I think I correctly characterize it when I say that Dr. Bloedern advised Dr. Cutter that the number had been reduced to about three members of your staff, and that number would be reduced later. Does that refresh your recollection at all? A.—No; I don't remember ever having any conversation with Dr. Bloedern along that line, nor was anything done about it, so far as I know.

Q.—If that rule had been in force then, Dr. Selders could not have joined your staff so long as you adhered to the rule?

Mr. Leahy:—I object as argumentative.

THE COURT:—Objection sustained.

By Mr. Lewin:

Q.—You say your medical staff finally voted on the application? A.—Yes, sir.

Q.—Is it not true that the medical staff included Dr. John Reed? A.—Yes.

Q.—Was he not a member at that time of the Executive Committee of the District Medical Society? A.—I could not say; I don't know.

Q.—Did not your medical staff include at that time Dr. Jacob Kotz? A.—I think so.

Q.—Was he not at that time the vice president of the District of Columbia Medical Society? A.—I couldn't say that. I don't know his affiliations.

Q.—Did it include Dr. Daniel Borden? A.—Yes.

Q.—Was he not at that time a member of the Executive Committee of the Medical Society? A.—I couldn't say. He may have been.

Q.—Did it include Dr. Mallory? A.—Yes, sir.

Q.—Was he not at that time a member of the Executive Committee, and was he not shortly thereafter the president of the District of Columbia Medical Society? A.—He was president at one time. I don't know whether it was that particular time or not.

Q.—Was he not president in the latter half of 1938? A.—Possibly; I don't know.

Q.—At the time at which Dr. Selders' application came up before you the second time? A.—If it was in 1938, he must have been.

Q.—Was not Dr. Arch L. Riddick a member of your medical staff? A.—Yes.

Q.—Was he not also a prominent member of the District of Columbia Medical Society and active on its committees? A.—He was a member of the Medical Society, but I don't know how active and prominent he was.

Q.—Was not Dr. Warren W. Sager a member of your medical staff? A.—Yes.

Q.—Was he not also a member of the Hospital Committee of the District of Columbia Medical Society in the fall of 1937 and the early part of 1938? A.—I couldn't answer as to his activities in the Medical Society; I don't know.

Q.—Did you not know that the Medical Society had a hospital committee? A.—Well, it may have had. I do not take a very active part in the meetings, so I am not familiar with the officers or their activities.

Q.—Did you know about Dr. Sager's answers to a questionnaire which was sent in by Dr. Warfield? A.—No, sir.

Q.—Did you not ever hear of such a questionnaire being sent? A.—If I did, it didn't impress me, because I have no recollection of a questionnaire now.

Q.—Did you not know that Dr. Sager advised the Hospital Committee that your hospital was in sympathy with the policies of the District of Columbia Medical Society in relation to Group Health Association? A.—The committee of which I am chairman?

Q.—No. This Hospital Committee of the District Medical Society. A.—No; I didn't know that.

Q.—Did you not know that there was a hospital committee headed by Dr. Warfield at that time? A.—I knew there was a committee on which Dr. Warfield was active, but I didn't take any active part in it. I don't think I attended more than one meeting during all that period, and I am not familiar with who the officers were or their activities.

Q.—Which one did you attend? A.—Just one regular meeting—I don't know which one that was—in the course of the year.

Q.—Which year—1937 or 1938? A.—I don't remember which year; but I went around once and I don't believe I went again the whole year.

Q.—Of course when the medical staff of your hospital voted on Dr. Selders you did not know what information they had then? A.—What is that?

Q.—When the medical staff of your hospital voted on Dr. Selders' application you did not know what information the rest of the staff had when it voted? A.—No, of course not.

Q.—Did you mean to testify here that you voted against him personally because of the reports you got from the Washington Academy of Surgery? A.—No; I didn't say that. I said if this information was furnished them from the report of the Academy of Surgery what those men thought or felt I don't know.

Q.—When you said you voted to turn him down, you meant that you personally voted to turn him down on the basis of that report? A.—No; I didn't say I voted to turn him down. I said the staff did.

Q.—Did you not vote to turn him down? A.—I may have voted myself, but I didn't say I did.

Q.—You were asked what influenced the staff, whether it was influenced by this report or not. A.—How should I know what influenced the staff?

Q.—You know what influenced you. A.—You mean, do I know why I voted?

Q.—Yes. A.—Yes.

Q.—You voted because of the report from the Washington Academy of Surgery; is not that right? A.—Yes.

Q.—Is this a copy of Dr. Selders' application which you received (handing a paper to the witness)? Perhaps it is the original, Doctor? A.—I assume it is.

Q.—Did not that disclose to you that he graduated in medicine at the University of Oklahoma in June of 1927? A.—Yes.

Q.—And that would be ten years, would it not, before this application was made? A.—Yes, sir.

Q.—It disclosed to you, did it not, that he had received a Bachelor of Arts degree, that he had received a Bachelor of Science degree in Chemical Engineering, that he had received a Bachelor of Science degree in Medicine, and a number of other degrees? Maybe you are more familiar with them than I am. A.—Yes.

Q.—Do you know anything about the University of Oklahoma's standing as a medical school. A.—No. I think it is all right now, at the present time. I don't know what it was then.

Q.—You do not have any reason to believe it was not good then, do you? A.—No.

Q.—Did it not disclose also that he had had an internship back in 1927 and 1928 at St. Joseph's Infirmary at Houston, Texas? A.—Yes.

Q.—Did you know anything adverse to that institution? A.—No.

Q.—You would suppose that would be good intern training? A.—That would depend upon the institution.

Q.—Have you any reason to believe—A.—I know nothing about it; I couldn't say whether it was good or bad.

Q.—Did you make any inquiries to find out? A.—No, sir.

Q.—And yet this was on the application that was referred to you to pass on? A.—Yes.

Q.—You found out also that he was a resident in surgery at the Worcester City Hospital in Massachusetts, did you not? A.—Yes.

Q.—Did not that tell you that he was there in 1936 to 1937? A.—Yes, sir.

Q.—And that was seven or eight years after he had had his internship? A.—Yes, sir.

Q.—What do you say about the standing of the Worcester City, Massachusetts, Hospital? A.—I know nothing about it.

Q.—You know nothing against it? A.—No, sir.

Q.—Did you investigate to find out whether it was a good place for a resident to be trained? A.—No, sir.

Q.—Of course you wanted this information, I suppose, for the purpose of investigating him, did you not? A.—That information was used for that purpose.

Q.—But not by you? A.—No.

Q.—Or by your medical staff? A.—By an agency which the medical staff had approved.

Q.—You mean, the Washington Academy of Surgery? A.—Yes.

Q.—But it was not used by you or your medical staff or your credentials committee, was it? A.—No; it was used by the staff of the Academy of Surgery on a definite motion and act of the Society.

Q.—Were you there when that was done? A.—Yes.

Q.—Were you a member of the Credentials Committee of the Washington Academy of Surgery? A.—No, sir.

Q.—Did you attend its deliberations? A.—No, sir.

Q.—Did you take any part in the investigation that it conducted? A.—No, sir.

Q.—As a matter of fact, did they not simply delegate it to Dr. Fred Sanderson to investigate? A.—I couldn't tell you what the action was.

Q.—As a matter of fact, was not Dr. Fred R. Sanderson the vice president of the Committee on Compensation, Contract and Industrial Medicine? A.—I don't know.

Q.—As a matter of fact, did not Dr. Sanderson prefer these charges against Dr. Tribble in May of 1938?

Mr. Leahy:—I object, as immaterial. He said he did not even know that it was referred to Dr. Sanderson.

THE COURT:—That is a matter of argument to the jury later.

Mr. Lewin:—All right, your Honor.

By Mr. Lewin:

Q.—You saw that he had been admitted to practice under the laws of the District of Columbia, did you not, from his application? A.—Yes, sir.

Q.—You saw that he had had graduate work? A.—Yes.

Q.—And had received a graduate degree? A.—Yes, sir.

Q.—Do you know where he received that? A.—Pennsylvania.

Q.—The graduate school of medicine in Pennsylvania. What would you say about the standing of that institution? A.—Very good.

Q.—So you would suppose, at any rate, that a post graduate of that institution would have some qualifications, would you not? A.—Yes.

Q.—For some kind of surgery, at least; is that right? A.—For some kind of surgery; yes.

Q.—He had applied for general surgery, had he not? A.—Yes.

Q.—You would construe that to mean all types of surgery, would you not? A.—Yes, sir. General surgery includes all types, unless some special type is indicated or requested.

Q.—It would include minor surgery too? A.—Yes.

Q.—Nevertheless, you turned down his application? A.—We don't discriminate. He asked for general surgery and he was turned down in general surgery. He didn't ask for minor surgery.

Q.—It was included in general surgery, was it not? A.—That is a different classification. A general surgeon can do minor surgery, but a minor surgeon cannot do general surgery.

Q.—You say you never met this man? A.—No, sir.

Q.—You did not know what manner of man he was? A.—No.

Q.—Although this was sent to you for investigation? A.—Yes.

Q.—You also saw, did you not, that he was a member of the Harris County Medical Society and a member of the American Medical Association? A.—Yes.

Q.—He was not a member of any of the local societies here? A.—I don't know. He doesn't state there whether he was or not.

Q.—You had heard something about this controversy with Group Health Association, had you not, Doctor? A.—I had read a good deal about it. I had not heard much.

Q.—Did you not know that he was not a member of the District of Columbia Medical Society? A.—I presume I did.

Q.—Did you not know he did not have a chance to get into it? A.—No; I didn't know that. I didn't know that he had made application.

Q.—Did you not know what would happen to him if he had? A.—I had no way of knowing that.

Mr. Leahy:—I object.

THE COURT:—That is not proper.

Mr. Lewin:—I just simply want the answer, your Honor. I will not press it.

By Mr. Lewin:

Q.—Do you see from this application also that he had had teaching experience at the University of Oklahoma? A.—I presume I saw everything on there. If that is on there, I saw it.

Q.—That he had had operative surgery? A.—Yes.

Q.—Why did you bother to read this at all if you were not going to do anything about it?

Mr. Leahy:—I object.

THE COURT:—Objection sustained.

By Mr. Lewin:

Q.—You saw that he had staff appointments at various hospitals, the Memorial Hospital in Houston, Texas, and St. Joseph's Infirmary? A.—Yes.

Q.—You saw about his contributions to medical literature? A.—Yes, sir.

Q.—I wonder if you would read those for me. They are hard for me to pronounce. A.—Maybe I can't pronounce them either. The first is Seminar on Rectosigmoid Carcinoma.

Q.—What is that? A.—A story or dissertation or comment on cancer of the rectum. The next one is A Comparison of Gastropylorctomy and Pyloric Resection in Treatment of Pyloric Ulcer.

Q.—Would you say those were fairly difficult surgical subjects? A.—I don't think what a man writes about it indicates his ability in any way in surgery. It is a deep subject.

Q.—You also saw that he gave some references to you? A.—Yes.

Q.—He gave you Dr. Walter E. Lee, Professor of Surgery at the Graduate School of Medicine, Pennsylvania? Did you write to Dr. Lee? A.—No, sir.

Q.—He was Professor of Medicine at the University of Pennsylvania? A.—Yes.

Q.—He gave you Dr. Leonard Brown as a reference, who is Professor of Surgery at Temple University? A.—Yes, sir.

Q.—What is the standing of that university? A.—Very good.

Q.—Would a Professor of Surgery at the University of Pennsylvania be a responsible reference? A.—I would think it would be a very good reference.

Q.—Do you think a Professor of Surgery at Temple University would be a good reference? A.—Almost as good.

Q.—Then he gave Dr. John T. Moore, Past President of the State Medical Association of Houston, Texas, and Dr. George McIvor, Superintendent of the Worcester, Massachusetts, Hospital. A.—Yes, sir.

Q.—And you did not write to any of them? A.—No, sir; to none of them.

Q.—He made his application and told you that he agreed to abide by the rules of the staff and such rules or regulations as might be enacted, did he not? A.—Yes, sir.

Q.—Also, did not Mr. Penniman's letter to the George Washington University Hospital tell you that he would be happy to be useful to the hospital in any way in which his services could be used? A.—I don't remember the details of his letter. There was a letter from Mr. Penniman, I think.

Q.—Was it not to that effect? A.—I couldn't say, without reading it again.

Q.—Well, I will not bother to get it out now. You simply took this and passed it over to the Washington Academy of Surgery. You did that orally, did you not? A.—I couldn't pass it over orally. I sent it to them. I think I did. I sent it to the secretary. I am not sure about that, but I conveyed the information to them.

Q.—And then were you present when the Washington Academy of Surgery decided what to take into consideration? A.—You mean, at a committee meeting?

Q.—I think this was a regular meeting held at the Cosmos Club, Dec. 10, 1937. A.—I don't think so. I don't recall.

Q.—I am showing you a photostatic copy of the minutes signed by Dr. Fishback. Was he the secretary? A.—He was at one time. I don't know whether he was then or not.

Q.—Did you know that the Washington Academy of Surgery took Dr. Selders' employment into consideration? A.—No; I don't know what action it took at all. I was not a member of the committee which passed on his application.

Q.—Did you not know that the Washington Academy of Surgery was made up largely of members of the defendant District of Columbia Medical Society? A.—Yes; of course most of them are members of the District of Columbia Medical Society.

Q.—Were they not all? A.—I couldn't say. Most of them were, I am sure.

Q.—So far as you know they were all members, were they not? A.—So far as I know they were—I assume they were.

Q.—Did you not know that the District Medical Society had taken the position that Dr. Selders' connection with Group Health Association was unethical?

Mr. Leahy:—I object. There is no such evidence.

Mr. Lewin:—There are oceans of evidence.

Mr. Leahy:—There is no such evidence in the case.

THE COURT:—The American Medical Association?

Mr. Lewin:—The District of Columbia Medical Society. Oh, my goodness! Think of all those minutes we read here!

Mr. Leahy:—You can say, "Oh, my goodness"! all over the place, but it is not there, and you cannot put it in there by that exclamation.

Mr. Lewin:—I think his Honor remembers it.

THE COURT:—You may ask him what action the Medical Society took about it.

By Mr. Lewin:

Q.—Do you know what action the District Medical Society took regarding the branding as unethical of the connection of a doctor with Group Health Association? A.—No, sir.

Q.—You knew about this hospital committee, the report of Dr. Warfield on December 1, did you not? A.—No, sir; I did not.

Q.—Did you not know the substance of it? A.—No, sir.

Q.—Do you think your memory might be refreshed on that point? Do you know whether or not your hospital ever went back to Dr. Selders and told him that he was asking for too much and that he ought to ask for something less, and the hospital would be glad to have him? A.—No; I have no recollection of any correspondence with Dr. Selders. I had none, I am sure.

Q.—Do you know whether or not there was any suggestion to that effect by the Medical Society? A.—I have no recollection of it. If any correspondence took place it was through Dr. Bloedorn's office, perhaps, and not through me. The purport of it I do not know.

Q.—Would you say that if this record of his is true he might have qualified to do some kind of surgery? A.—I think if he had asked for minor surgery he might have gotten it.

Q.—But you do not think you made any suggestion to that effect? A.—Well, it is not customary to do that. I know I did not make any suggestion to that effect.

Q.—Did you or your hospital make any suggestion to him that he might come to your hospital and be put under wraps, so to speak, and be observed by some of your more skilled men? A.—What do you mean by "put under wraps"? I don't understand that.

Q.—That was an expression that was used before. I do not think I understand it very fully—but put under supervision by somebody.

Mr. Leahy:—How do you spell it?

A.—It didn't come from me. It may have come from some other officer of the Society, but not from me.

By Mr. Lewin:

Q.—Would you think that would be a fair thing to do? A.—It seems to me that if I were turned down I would come around to find out why. It is not up to the hospital to suggest how to get in, any more than trying to get into a club. I don't think a club tells a man how to get in.

Q.—You think a private hospital in the city of Washington is just like a club? A.—No; I didn't say that. I said that getting in may be like a club.

Q.—You say, it is like getting into a club? A.—I said it may be. Certain qualifications are necessary, I would say.

Q.—You had that in mind when you took this action, didn't you? A.—That he didn't qualify?

Q.—No; that it was something like getting into a club. A.—No; he didn't qualify to get into a club.

Q.—Dr. White, is it not true that your hospital did not let any other Group Health doctors in during that year? A.—I don't know whether any others applied or not.

Q.—Did not Dr. Halstead apply? A.—It wasn't brought to my attention.

Q.—Did you not know that he applied to your hospital in 1938, in August, for minor surgery? A.—I didn't know of that. It didn't come to my attention. Dr. Halstead?

Q.—Yes. A.—I don't recall that he did.

Q.—Did you not know that in the fall of 1938 Group Health Association did come back to the hospital to re-apply? A.—I have heard something about that.

Q.—Is it not true that you simply referred it again to the Washington Academy of Surgery? A.—If it was for major surgery it would be referred to them, but not for minor surgery. Minor surgery comes under medicine. Therefore I would not get an application for minor surgery.

Q.—You gave it the same treatment you gave it before? A.—I didn't give it any treatment.

THE COURT:—You misunderstood him. He said an application for minor surgery would come under the medicine end of it, and he would not get it.

Mr. Lewin:—I see.

By Mr. Lewin:

Q.—As a matter of fact, did he not apply again for courtesy staff privileges at the George Washington Hospital through Group Health Association? A.—Who applied?

Q.—Dr. Selders? A.—Not that I know of. I don't remember.

Q.—I wonder if I can refresh you from my notes. If you have any doubt about it, tell me so. I have here the minutes of the staff conference of Oct. 10, 1938, of the George Washington University Hospital at which Dr. Bloedorn was present,

and you were present, among others, and it says that Dr. Selders' case was referred back to the Committee on Hospital Privileges for recommendation. Were you still on the committee? A.—Yes, sir.

Q.—And it was moved and seconded that Dr. Selders' application be referred to the Academy of Surgery and the recommendation followed the usual procedure? A.—Yes, sir.

Q.—Is not that the last action that you took in that matter? A.—That is the last that I recall.

Q.—Did you know Dr. Glenn I. Jones, Dr. White? A.—Yes, sir.

Q.—Do you remember his coming to see you with regard to a proposed connection with Group Health? A.—I think he came in to see me once.

Q.—Was not that in April of 1937, or March? A.—I couldn't recall the year or month.

Q.—Is it not true that you discouraged him from joining? A.—I don't know whether I discouraged him. I probably expressed an opinion, and he could use it as discouragement or encouragement, as he felt about it.

Q.—Did you not tell him, in substance, that any member of the medical profession of the District of Columbia who joined Group Health Association would be kicked out of the District Medical Society or lose his membership therein, and any member of the Medical Society of the District of Columbia who consulted with a member of the Group Health would likewise be put out of the District Medical Society? A.—I would say I never told him that, because I would have no way of knowing it. I may have said it was my opinion that something like that might happen, but I couldn't tell him it would happen.

Q.—You held that belief, did you not? A.—If I said that I held that belief.

Q.—Didn't you hold that belief? A.—I don't remember. I may have.

RE-DIRECT EXAMINATION

By Mr. Leahy:

Q.—Did you know of any reason at all why you should throw the bars down and the rules and regulations of George Washington University Hospital simply because Dr. Selders made an application?

Mr. Lewin:—Objected to as argumentative and not proper redirect.

THE COURT:—The question is whether they took the regular course; that is all.

By Mr. Leahy:

Q.—Was there anything done, Doctor, with reference to this application other than was done as to the applications of the other doctors that you said were rejected at the same time Dr. Selders was? A.—His application took the regular order of business that every other application had for two or three years prior and ever since, so far as I know. There has been no exception in any way whatsoever.

Q.—Since the time that your board voted that the Washington Academy of Surgery should make investigations into the qualifications of every applicant for general surgery privileges at George Washington University Hospital, have you ever investigated personally an application? A.—I never have. I always felt that the Academy was in a position to do it much better than I could alone.

Q.—Have you ever written to anybody whose name was given as a reference on any application? A.—Never.

Q.—Have you always referred the references, as well as the qualifications, to the Academy of Surgery? A.—I have sent the applications as they appeared to the Academy of Surgery.

Q.—Going over the application, Doctor, is there anything different about this application as it is written by Raymond E. Selders than an application written by anybody else, save and except that the answers would be different as to medical schools, and so forth?

Mr. Lewin:—Objected to. There is no question left—"Is there anything different except that it is different"? A.—It is a regular form which everybody fills out.

THE COURT:—I think the question should be simply whether or not that is the regular form of application.

By Mr. Leahy:

Q.—Is that the regular form that everybody signs? A.—These are printed by the thousand, and everybody gets one who makes application, exactly the same.

Q.—How many such applications do you think come to George Washington University Hospital in a year? A.—I suppose about one hundred and fifty to two hundred, possibly, for surgery alone.

Q.—When courtesy privileges are granted in George Washington University Hospital, how long are they granted for?
A.—For a year.

Q.—And at the expiration of the year must the applicant then fill out this same kind of an application? *A.*—No, unless for some reason he is not approved. Then they may go back to him for a new application. He may have changed his qualifications; he may have improved his qualifications. Then he can make a new application.

Q.—Do you recall how many other applications you sent along to the Washington Academy of Surgery at the time you sent this Selders application? *A.*—No; but I send in, in the course of a year, I should say, twenty or thirty, or possibly more.

Q.—Were those whose applications were rejected at the same meeting of the staff at which Selders' application was rejected members of the society? *A.*—Has it been testified that there were others rejected at the same time?

Q.—Yes.

THE COURT:—I did not catch the question. Put it again.

By Mr. Leahy:

Q.—Were other names, or the names of others who made applications, other than Dr. Selders, rejected at the same meeting in which the Selders rejection took place? *A.*—Applications to the George Washington University Hospital, which had been referred to the Washington Academy of Surgery, and which the Washington Academy of Surgery referred back to George Washington University Hospital with its recommendation pro or con.

By Mr. Leahy:

Q.—Were there other such applications than that of Selders which were rejected at the same meeting that Selders was rejected? *A.*—I cannot be sure it was the same meeting, but certainly many other applications were rejected at the regular meetings. Whether there was more than Dr. Selders' at that meeting I don't know, unless I could see the minutes. It was nothing unusual to reject a man making application for surgery.

Q.—Doctor, does the fact that an applicant for privileges in your hospital happened to be a member of one society or another society or no society control in the question of the granting or refusal of an application?

Mr. Lewin:—Objected to, as leading, argumentative, and calling for a conclusion.

THE COURT:—Objection overruled.

A.—The question of membership in the Society has never come up in the consideration of an application, so far as I know.

By Mr. Leahy:

Q.—Did the fact that Dr. Selders was or was not a member of the District Medical Society have anything to do with the rejection by your board of his application?

Mr. Lewin:—Objected to. He has already testified that he did not know what was in the minds of the board.

By Mr. Leahy:

Q.—So far as you know.

Mr. Lewin:—He does not know. He said he did not.

THE COURT:—He may state whether or not that was the subject of any discussion in the meeting.

The Witness:—The matter of membership in any organization was not discussed. I think the men had in mind his professional qualifications when they voted on it. That is my private opinion.

Mr. Lewin:—We move to strike the private opinion.

THE COURT:—That will go out.

By Mr. Leahy:

Q.—Do you recall whether there was any discussion in the board whatsoever as to the fact of his membership in the Harris County Medical Society or the Medical Society of the District of Columbia? *A.*—In the board?

Q.—When his application came up for final vote. *A.*—Before the staff?

Q.—Yes; the staff. *A.*—The membership in no society was discussed at that time.

Q.—What was the only subject discussed, to your recollection, by the staff at the time that the application came up for rejection or acceptance? *A.*—I think I made the statement that this was to be acted upon purely on a professional qualification basis. I think I made that statement before the staff.

Q.—What was the reason why you made that statement before the staff in reference to that application?

Mr. Lewin:—Objected to.

THE COURT:—Objection overruled.

A.—There had been lots of publicity about this thing, and I felt he ought to have a fair deal, a square deal, and I wanted

to make it plain to the staff that it was purely on his professional qualifications; and I think I made that statement. What the reaction was I don't know.

By Mr. Leahy:

Q.—Doctor, you were asked also some questions about a questionnaire of Dr. Warfield's. Did you ever see a questionnaire which Dr. Warfield had sent? *A.*—If I ever saw it I don't remember it, and I certainly must have thrown it in the wastebasket for it made no impression on me whatever.

Q.—Did any questionnaire of Dr. Warfield ever come before the staff of George Washington University Hospital for action? *A.*—Not that I recall.

Q.—Do you have now any recollection of ever acting on any questionnaire that was presented? *A.*—No, sir; I have no recollection whatsoever of any.

Q.—Did the staff of George Washington University Hospital ever take any official action with reference to supplying the District Medical Society with any information in regard to any questionnaire? *A.*—Not during any of my attendance in the meetings; and I attended practically all of them.

Q.—You were asked about the Mundt Resolution, Doctor. Do you know what that is? *A.*—I have heard of it recently, but up to that time I had not heard much about it.

Q.—Do you recall whether any action was even taken by the staff of George Washington University Hospital with reference to the Mundt Resolution on the suggestion of Dr. Cutter? *A.*—No, sir; not at any meeting I have attended.

Q.—Did any such thing as that ever come before the staff for discussion? *A.*—No, sir.

Q.—Did you ever hear about it before you were asked about it this morning? *A.*—I heard about it a few weeks ago, but never before.

Q.—Was that since this trial started? *A.*—Yes, sir.

Q.—Did the staff of George Washington University Hospital ever take any action as to whether the Mundt Resolution should be enforced in George Washington University Hospital? *A.*—I never heard of the Mundt Resolution, so far as I know.

Q.—Did you ever hear any motion put to the effect that only members of the District of Columbia Medical Society should be members of the staff of George Washington University Hospital? *A.*—It never came up.

Q.—As a matter of fact, are there members who are not members of the District of Columbia Medical Society on the staff? *A.*—Plenty of them.

Q.—How many, would you say? *A.*—Twenty or thirty.

Q.—Have there been for the last three or four or five years? *A.*—Longer than that.

Q.—In other words, has the application of any member for staff privileges in George Washington University Hospital any relation at all to his membership in any organization? *A.*—I don't believe it has a thing to do with it.

Q.—With reference to G. H. A., do you recall whether the staff of George Washington University Hospital ever took any position with reference to G. H. A. and the District of Columbia Medical Society or the American Medical Association? *A.*—I don't think it took any action whatsoever. I never heard it discussed in the Society. It was purely Society affairs, and nothing else.

Q.—When you voted upon the application of Dr. Raymond E. Selders did you vote for his rejection to try to restrain or to break up G. H. A.? *A.*—Certainly not.

Q.—Did you in any way vote in order to interfere with G. H. A.?

Mr. Lewin:—Objected to as leading.

Mr. Leahy:—It has got to be leading.

Mr. Lewin:—Can he not state why it was he voted?

Mr. Kelleher:—This man is not a defendant, your Honor.

THE COURT:—I think this is getting beyond the scope of the examination.

Mr. Leahy:—I made a note that they asked him something about G. H. A. and what he knew about it.

Mr. Kelleher:—You are not asking him that.

Mr. Leahy:—I know what I am asking.

Mr. Lewin:—So do we.

THE COURT:—You may ask him whether he had any bias against G. H. A.

By Mr. Leahy:

Q.—Did you, Doctor? *A.*—I voted to reject him purely on the report of the committee of the Academy of Surgery in which I had the utmost confidence, that they would give him a proper examination or investigation, and for nothing else. I did not know Dr. Selders. I had never seen him. I would reject any man that the Academy would not approve—my own son.

RE-CROSS EXAMINATION

By Mr. Lewin:

Q.—Is it not true, Doctor, that all of the surgeons on your medical staff, speaking of George Washington University Hospital, were also members of the Washington Academy of Surgery? A.—I could not say. They probably are.

Q.—When you delegate that task to the Washington Academy of Surgery you are really delegating it to the same group of men, are you not? A.—There are other men in the Academy of Surgery than are on that committee, who were members of the George Washington University Hospital staff. They may not even be members of that committee; I don't know.

Q.—Why is it that the Washington Academy of Surgery is better qualified to investigate Dr. Selders than you were, and your staff? A.—I think I can answer that for you. A committee of about ten men in the Academy of Surgery have affiliations with all the hospitals in Washington, and I believe that a committee of ten could investigate a man better than a committee of one, which would be me.

Q.—Could you not have a committee of ten? A.—Yes; but the committee was already set up, acting for all the hospitals in Washington. We were trying to get a standard board of examination at the time.

Q.—You had a Credentials committee? A.—Yes.

Q.—And you had a large medical staff composed of competent surgeons? A.—Yes.

Q.—Could you not have had ten men investigate Dr. Selders, if ten men were necessary?

Mr. Leahy:—I object to that, as argumentative.

THE COURT:—Objection sustained. It is purely argumentative. He said that the application was referred to the committee under the method that they had adopted as to every application. Of course he might have done it otherwise.

By Mr. Lewin:

Q.—You remember that the report from the Washington Academy of Surgery simply said that the committee—

Mr. Leahy:—I object to the reading of the document.

Mr. Lewin:—I am not reading from the document. As a matter of fact, this is not the document that I want to show him. I am trying to save time.

THE COURT:—I think this witness has been pretty thoroughly examined by both sides.

Mr. Lewin:—There are a few points that I do not think have been brought out, your Honor, and I would like to bring this one out.

By Mr. Lewin:

Q.—Is it not true that the report of the Washington Academy of Surgery which your hospital received confined its remarks on Dr. Selders to saying that "the committee is attempting to obtain further information on Dr. Raymond E. Selders and has not yet been able to act on his application." Was not that the first one? A.—I don't know whether it was or not. That didn't come to me directly. I think that went to the Dean, probably.

Q.—Did you not ever see the report which the Washington Academy of Surgery made on Dr. Selders? A.—I probably saw the last and final report.

Q.—Did not that simply say that he was disapproved, without stating the reasons? A.—It may have.

Q.—As a matter of fact, is not that all that the Washington Academy of Surgery reported, that he was simply disapproved? A.—That is sufficient for our purposes.

Q.—But you did not know on what ground they had turned him down? A.—No.

Q.—Or what investigation they had made? A.—No; I did not.

Q.—Why are you so confident that the Washington Academy of Surgery could have investigated him better than you could? A.—Because I have complete confidence in that group, and the hospital staff voted to accept their recommendation. That was the regular action of the staff.

Q.—You had confidence in your own group, did you not? A.—The staff took action. Why should I do differently as a member of the staff?

Q.—The point is that you and your committee and the hospital itself knew nothing against Dr. Selders except that the Washington Academy of Surgery had turned him down for undisclosed reasons; is that right? A.—Surely.

RE-DIRECT EXAMINATION

By Mr. Leahy:

Q.—See if this does not refresh your recollection so that you can state now, as a matter of fact, that other people were rejected besides members of G. H. A. at the same meeting.

Mr. Lewin:—That was not at the same meeting. That was another meeting.

Mr. Leahy:—It was the same meeting in which one of your men was rejected.

Mr. Kelleher:—They did not disapprove Selders at that time.

Mr. Leahy:—I know it.

THE COURT:—Let us not have this kind of argument between counsel.

The Witness:—They refused two men for privileges, in the same letter.

By Mr. Leahy:

Q.—One was Dr. Allen E. Lee? A.—Yes.

Q.—What did he make application for? A.—General surgery.

Q.—And he was disapproved as to general surgery, was he not? A.—Yes.

Q.—And without mentioning the name of the other doctor, as a matter of fact there is a disapproval of one whom we will call Dr. Blank to do surgery also; is that right? A.—Yes.

Q.—Do you know whether or not Dr. Blank was a member of the District Medical Society? A.—I think he was.

Q.—Did you disapprove him? A.—Because we did not think he was qualified to do general surgery.

RE-CROSS EXAMINATION

By Mr. Lewin:

Q.—When you got this report on Dr. Lee it did not state the grounds for his disapproval? A.—No, sir.

Q.—And at that time he was also a member of the staff of Group Health Association? A.—I don't know.

Q.—Is it not dated? A.—I don't know the date that he was a member of it.

Q.—Is not that the date (indicating)? A.—I still don't know.

Q.—Don't you know about the Lee and Scandiffio matter? A.—I knew he resigned.

Q.—Did you not know that he was tried for unethical practices?

Mr. Leahy:—I object.

THE COURT:—Sustained.

By Mr. Lewin:

Q.—This date is Dec. 8, 1937? A.—Yes.

THE COURT:—Gentlemen, this examination has got to end some time. I think it has gone far enough.

Mr. Leahy:—It has for me. I have no further questions.

Mr. Lewin:—I have no further questions, your Honor.

Mr. Leahy:—May Dr. White be excused?

THE COURT:—Yes.

TESTIMONY OF HENRY C. MACATEE

DIRECT EXAMINATION

By Mr. Leahy:

Henry C. Macatee, 2324 California Street, Washington, D. C., said he had resided in the District of Columbia since 1895. He has been a member of the Medical Society of the District of Columbia since 1902. He has been a practicing physician in Washington since 1901. He graduated from George Washington University in 1900. Following graduation he was an intern at Garfield Hospital from 1900 to 1901, and in 1903 and 1904 was Superintendent of the George Washington University Hospital. He is now connected with Garfield Hospital as a member of the Society of Incorporators, a member of the board of directors, a member of the executive committee of the board of directors, president of the medical staff, and ex officio chairman of the advisory committee. On the board of directors there are about eighteen or twenty laymen except for himself, Dr. Reichelderfer and Dr. Lindsay. The witness had abandoned general practice for the specialty of internal medicine about 1918.

Q.—Doctor, when was it, if you can recall now, that your attention was first attracted to G. H. A.? A.—About the middle of May 1937.

Q.—How was that brought to your attention at the time? A.—I was invited to attend a meeting at the office of Dr. William Gerry Morgan.

Q.—From whom did the invitation come? A.—I think, from Dr. Morgan himself; I am not sure.

Q.—Prior to the receipt of the invitation did you know anything about the meeting to be held at his office? A.—Nothing whatever.

Q.—In what shape did the invitation come to you? A.—By telephone call.

Q.—As a result of receiving the invitation, what did you do? A.—I went to the meeting.

Q.—Who was present at the meeting, Doctor? A.—As nearly as I can remember, Dr. Morgan, Dr. Christie, Dr. Groover,

Colonel Glenn I. Jones and, I think, some medical officer of the Army whose name I do not remember.

Q.—How long did the meeting last, Doctor? A.—I would say, an hour to an hour and a half.

Q.—Do you recall who was the speaker there, in the sense of the person who was giving information, if information was given, with reference to G. H. A.? A.—Colonel Glenn I. Jones.

Q.—Following this meeting with Colonel Glenn I. Jones, when, if at all, was the next meeting or the next occasion when you had any information with reference to G. H. A.? A.—At a meeting of the Executive Committee of the Medical Society on June 1, 1937.

Q.—Were you a member of the Executive Committee of the District of Columbia Medical Society at that time, Doctor? A.—I was.

Q.—When did you take office in the Executive Committee? A.—In 1929, for this term of service. I had served ex officio as the delegate of the District Medical Society to the American Medical Association.

Q.—Are you one of the delegates from your own Medical Society to the House of Delegates? A.—I am the only delegate.

Q.—I meant to ask you, Doctor, if you ever held any other office than on the Executive Committee in the District of Columbia Medical Society? A.—I was recording secretary of the Medical Society from 1905 to 1920. In 1921 I was president of the Society, and thereafter I was a member of the Executive Committee by election and was chairman of the Executive Committee for two or three years.

Q.—During the year 1937 and also the year 1938 down to December 20 of that year, were you on the Executive Committee of the District Medical Society? A.—I was.

Q.—You state that on June 1, 1937 there was a meeting of the Executive Committee of the Medical Society of the District of Columbia? A.—There was.

Q.—Where was that meeting held? A.—At the Medical Society.

Q.—Was there any discussion at that time with reference to G. H. A.? A.—There was.

Q.—Do you recall who was present on that particular occasion, Doctor? A.—It was a well attended meeting of the Executive Committee, the personnel of which I am hazy about now. I know that the secretary of the Society was also secretary of the Executive Committee, and he was Dr. Conklin. I was present. Dr. Verbyckce was present by invitation.

Q.—What position, if any, did Dr. Verbyckce hold in the District of Columbia Medical Society? A.—At that time he was chairman of the Economics Committee.

Q.—Do you recall now whether or not Dr. Verbyckce at any time during the course of that meeting made any report to the Executive Committee with reference to G. H. A.? A.—Yes. He reported that he had obtained a copy of a prospectus in the form of a mimeographed pamphlet describing its purposes and its plan of operation.

Q.—Was there any way of identifying which particular pamphlet he had reference to? A.—The pamphlet itself was presented at that time.

Q.—Do you recall whether or not it was marked with any descriptive word? A.—It was marked "Confidential."

Q.—Did you see the pamphlet at that time, Doctor? A.—I saw it at that time and previously.

Q.—Where had you first seen that pamphlet? A.—Dr. Verbyckce and I have offices jointly, and saw it in our offices.

Q.—At the meeting about the middle of May had you then heard anything further about G. H. A., other than what you received verbally from Colonel Glenn I. Jones? A.—Nothing, until I saw the prospectus in our offices.

Q.—Do you recall how long prior to the June meeting of the Executive Committee it was that you saw this prospectus? A.—I would say, a few days only.

Q.—I want to show you a photostatic copy of what has already been introduced in evidence, and ask you if you can identify that as a copy of the pamphlet which was presented there at that time? A.—I think that is the identical pamphlet.

Q.—Do you recall now whether any action was taken in the meeting of June 1, 1937 by the Executive Committee? *The Witness*:—"June 1, 1937. News of G. H. A., Inc., communicated to Executive Committee. Prospectus presented. Subcommittee, McGovern, chairman, appointed."

Q.—Have you seen what has been offered in evidence here which purports to be a photostatic copy of the minutes of the meeting of the Executive Committee of June 1, 1937? A.—I have.

Q.—In so far as the action taken at that meeting is recorded in those minutes, can you tell us whether or not they correctly

record the ultimate action taken? A.—According to the best of my recollection, they do.

Q.—Have you looked over the statement which the minutes at the time recorded, by way of abstracting the remarks of Dr. Verbyckce, to tell us whether in your judgment Dr. Verbyckce made the statement or in substance that?

Mr. Lewin:—Objected to. We do not want his judgment about it at all, or his opinion.

THE COURT:—I suppose it is to refresh his recollection.

Mr. Leahy:—That is all it is, if your Honor please.

THE COURT:—He may state whether or not that accords with his recollection.

The Witness:—I think my best answer would be that the minutes were subsequently read and approved.

By Mr. Leahy:

Q.—Do you recall what they record with reference to Dr. Verbyckce's opinion which he gave to the committee, as to whether that is or is not what occurred at the time? A.—I think substantially the record indicates what occurred at the time.

Q.—Who was the chairman of the committee at that time?

A.—Dr. Thompson.

Mr. Leahy:

"The Chairman, in addressing the meeting, said that the reason for calling the special meeting was on account of certain serious situations that had developed. The Home Owners Loan Corporation, the Veterans Bureau, the Soil Conservation Department, and the Reconstruction Finance Corporation had already undertaken the development of a plan for medical care of their employees. He had learned that the Home Owners Loan Corporation was attempting to get an appropriation from Congress"—

Mr. Lewin:—Excuse me a moment. May it please the Court, may I make this suggestion with regard to reading from the minutes? May we not both have the right to read pertinent portions of the minutes to the witness in connection with a question, and not read the entire documents over again?

THE COURT:—It is difficult for me, the way things have gone, to put any severe limitations upon references to these papers; but I have indicated to counsel that I would like them to read only those parts which may be pertinent to the examination of a witness.

Mr. Leahy:—That is all I am going to read. There are pages that I will not even think of reading, your Honor.

(After some discussion among the attorneys.)

THE COURT:—What is your particular purpose, Mr. Leahy? I would like to know.

Mr. Leahy:—It was at this special meeting that the G. H. A. matter for the first time came in any official way before the District Medical Society. Certain information was given to the Executive Committee by Dr. Verbyckce and Dr. Thompson. It becomes important to see what the official attitude of the District Medical Society was with reference to G. H. A. from the very first day. The District of Columbia Society has been made a defendant, and there have been read so many statements made in meetings, discussions back and forth, that I want to be able to trace for the jury, if I can, that after these discussions were had, after the chats were had back and forth in committee meetings or on the floor, the action of the District Medical Society as the entity which has been made a defendant in this case was thus and so, so that we will have a clear chronological picture of just how this all developed.

THE COURT:—I think, of course, the minutes should stand in the same position as letters. I have accorded counsel on both sides the privilege of reading letters or such parts thereof as they might deem material in their own case, regardless of who has produced the letters, and that has been rather liberally taken advantage of by both sides. If there are any parts of the minutes which counsel feel are necessary to set forth in their own case, whether it be in the prosecution or the defense, I think it is only fair, in view of the great number of exhibits, to permit it to be done. But I want to request counsel again to, as far as possible, limit such reading to things that they deem really important.

Mr. Leahy:—That was the only purpose, your Honor, to see if I could get a chronological picture of the official acts taken. I think I got down to the point that he had learned that the Home Owner's Loan Corporation was attempting to get an appropriation from Congress.

"He thought it was the duty of every member of the Society to contact their representatives with a view to blocking this effort. The idea was to get sufficient funds to finance a medical service plan. Briefly, the plan, according to his information, was that Dr. H. H. Brown is to be the Medical Director at \$8,000 a year. Mr. Brown is now in the Veterans' Bureau in charge of the Tuberculosis Division. Government employees would pay a certain amount per annum from their income.

The Chairman was under the impression that it would be impossible to get an injunction out against the procedure and that the only hope would be to hold off the adoption of the plan until the Medical Society could work out a substitute plan that would be less vicious. Dr. Thompson called on Dr. J. Russell Verbyrcke Jr., who had been very much interested in this subject.

"Dr. Verbyrcke said that he had heard of this plan and he had in his hand a prospectus, marked 'Confidential,' in which details had been very well worked out. He added that there were certainly some parts of the plan that would seem intriguing. He had written a letter to Dr. W. C. Woodward, which he stated was semiofficial, in which he outlined the situation with a view to getting the opinion of the A. M. A. headquarters. He then proceeded to read rather extensively from the prospectus at hand. This prospectus was to be known as the Group Health Association, Inc. Mr. William F. Penniman of 1869 Wyoming Avenue N.W. is President; Mr. H. T. Berry, 3019 Rittenhouse Street, is Secretary. The Twentieth Century Foundation was beyond a doubt interested in this so-called Filene Association, and would in all probability help finance the project to get it started. It had been estimated that there were some one hundred and nineteen thousand Government employees and that the expected sum to be obtained from these employees would amount to \$1,750,000 per annum. It was contemplated to hire eighty physicians; their salaries would range from \$3,000 to \$12,000 per annum. They would not be allowed to do outside work. Briefly, the plan was to have an employee, whose income was \$1,000 a year, contribute \$40 a year for health service. If a man's income was \$10,000, he would pay \$400 a year. It is estimated that at the present time individuals pay from 4 to 5 per cent of their income for medical care. One physician would take care of about eight hundred and thirty-three people. It was contemplated to have the wife and family of the Government employee included. The children would be on a sliding scale.

"Colonel Glenn I. Jones, who was present by invitation, stated that he had been invited to a meeting of the Home Owners Loan Association which was organizing a plan for taking care of the health of its families. He stated frankly that he had been offered the general management of this organization. The conference he attended lasted two and one-half hours. He promised then that he would attempt to draw up an organization chart. He first suggested a small clinic with physicians and consultants. He told them frankly that if the Medical Society of the District of Columbia disapproved their efforts that there would not be any available medical assistance which could be depended upon. He stated that he had consulted Drs. C. S. White, T. A. Groover, A. C. Christie, and also William Gerry Morgan. He learned that they were opposed to the entire proposition of the prepayment plan."

By Mr. Leahy:

Q.—Now, Doctor, without reading all the rest of these minutes which are therein, I refer you particularly to a portion of a minute which has been read and call your attention to page 2 of this minute. Do you see where I have indicated (handing minutes to witness)? A.—I do.

Q.—Did you make a statement in the manner and form as reported on the minutes?

Mr. Lewin:—Objected to. The manner and form, what does that mean?

Mr. Leahy:—Well, as stated in the minutes. I just want to know what he said.

A.—My statement is not fully represented in the minutes.

Q.—In that minute which I have just directed your attention to you are purported to have made a statement following Colonel Glenn Jones's talk. A.—Yes.

Q.—What did you say, as a matter of fact? A.—I said I had attended the meeting at Dr. Morgan's office two sentences previously, that I heard the statement made by Dr. Jones at that time and, so far as the minute refreshes my recollection, I am represented as saying something which needs extensive qualification.

Mr. Lewin:—Will you show us what that is you have there?

Mr. Leahy:—Will you kindly then state what was said by you at that time? A.—That it was obvious that much of our information was based on rumor; that the only concrete evidence about the plan was the prospectus; that the plan had not yet been fully organized; wasn't fully completed; wasn't ready to go into action. If and when it did go into action and came into conflict with the Medical Society in any way our attitude would have to be entirely predicated on our own organizational rules and regulations. That we might have to consider the question of contract practice; that in that case it might be necessary to discipline members if they entered into contracts or contract practice contrary to our regulations; that if the relations to hospitals were undesirable from a medical point of view our action would be limited to such influence which we might exert through our members, who were members of the medical staff of the hospital, but that we could not directly control the hospital for reasons well known to ourselves.

Q.—Doctor, when you spoke about contract practice, and the question of disciplining members, with reference to any regulation the Society may have had in regard to contract practice, can you refer us to any regulation you had in mind? A.—Yes, one adopted in amended form for March 1937, immediately preceding this meeting of June 1.

Q.—And is that the amendment to what has been called Article 4, Section 5? A.—Yes, that is the one to which I refer.

Q.—Now, as a matter of fact, had that particular article been in the constitution for some time: Do you know how long?

A.—To my recollection since January 1936.

Q.—Do you recall whether the adoption of that particular article had anything whatsoever to do with Group Health Association? A.—Nothing whatsoever.

Q.—And did the amendment of the article which you state had been adopted in March 1937 have anything whatsoever to do with G. H. A.? A.—Nothing whatsoever.

Q.—To your knowledge did anybody in the executive committee or in the District Medical Society have any knowledge of anything about G. H. A. in March 1937? A.—Not to my knowledge; I had none.

Q.—Did the executive committee of the District Medical Society have under its jurisdiction the discretion about the adoption or rejection of the amendment of March 1937? A.—These amendments to the constitution are usually considered, perfected and recommended for adoption or not to be adopted before they are considered by the Society itself.

Q.—At any discussion with reference to this amendment by the executive committee of the District Medical Society did you ever hear G. H. A. mentioned? A.—Never.

Q.—Without going into the details, Doctor, but just substantially, so that we may know, did this amendment which you state was adopted in 1936 and amended in March 1937 have reference to any particular object whatsoever? A.—It did.

Q.—And what was the object to which the amendment was directed? A.—It was directed toward providing the Society with a means of regulating its members with regard to contract practice in so far as the contract might be out of accord with ethical principles and of our conception of good public policy.

Q.—Had it been occasioned by any particular condition which existed with reference to the practice of medicine in the District of Columbia? A.—It had been occasioned by a very disagreeable problem which arose here in the District.

Q.—And did that problem have anything to do with G. H. A.? A.—Nothing whatsoever.

Q.—What did it have reference to?

Mr. Lewin:—Objected to as immaterial.

THE COURT:—Overruled.

A.—It had to do with a complaint of a member against an industrial medical clinic which had formerly employed that member but which had summarily discontinued his services and employed another member.

Q.—That clinic was not the G. H. A.? A.—It was not.

Q.—And that clinic was in operation when, at what period of time? A.—Prior to 1936, January 1936.

Q.—Now, out of this discussion in the executive committee special session of June 1, 1937 what action did the executive committee take, Doctor? A.—The only action it took was to authorize the appointment of a subcommittee to gather facts relative to Group Health Association for presentation to the executive committee for its guidance.

Q.—And do you recall who was selected by the committee or appointed on that subcommittee? A.—I don't recall except that Dr. F. X. McGovern was chairman.

Q.—I now show you the minutes. See if they refresh your recollection. I am indicating the third page, and the top thereof. A.—That represents the personnel of the committee.

Q.—F. X. McGovern, Chairman; R. Arthur Hooe; Earl R. Templeton; A. J. Connelly; David Davis; William T. Gill Jr. That committee was appointed on the motion of Dr. Hooe when, in the next to the last paragraph, Dr. Hooe interrupted to state he wanted to change his motion to the effect that a subcommittee be appointed to cooperate with it, that is, to cooperate with the committee on economics which Dr. Verbyrcke was chairman of, and that the information should be obtained. "Seconded and adopted."

Doctor, did you have any official connection, by reason of being a delegate to the House of Delegates of the American Medical Association, with this subcommittee, which was appointed on June 1? A.—None.

Q.—So far as your knowledge goes now, Doctor, is that the only action which came out of this special meeting of the executive committee on June 1? A.—That is the only action taken.

Q.—And is that the first action of any sort to your knowledge that was ever taken by the District Medical Society? A.—That is the only action taken.

Q.—And now, following the appointment of this subcommittee on June 1, 1937, when was the next time, if at all, when you heard personally about G. H. A.? A.—I heard nothing except the gossip that goes around doctors' offices and hospital corridors with respect to this report.

Q.—Did you attend the convention of the American Medical Association at Atlantic City in June 1937? A.—I did.

Q.—Did you hear anything said about G. H. A. at that time? A.—I discussed it with such colleagues as I met in Atlantic City, and I discussed it with Dr. Woodward on perhaps several occasions.

Q.—Do you know whether any information was given to the House of Delegates, as a body, or to any committee thereof, on that occasion? A.—I myself made a brief report about what we had learned in Washington.

Q.—To whom did you make that report? A.—I made it to the House of Delegates, as I recollect it.

Q.—Do you recall whether, as a result of information which was given to the House of Delegates at the Atlantic City convention, any action was taken by the A. M. A. with reference to G. H. A.? A.—According to my best recollection I had no opportunity to address the House of Delegates until Thursday, which is the last meeting day of the House of Delegates. It was at a time after all the reference committees had considered the matters brought before them, and it was in the late hours of the meeting of the House of Delegates. It was received as information only and no action was taken.

Q.—By the way, do you recall the date of this meeting at Atlantic City? A.—I would say roughly from June 10 to June 15.

Q.—When was the next time you had any connection with any discussion had or action taken with reference to Group Health Association? A.—On June 21st, at a meeting of the executive committee.

Q.—Where was that held? A.—In the usual meeting place at the Medical Society Building.

Q.—Do you recall what was the occasion of the meeting of the executive committee on June 21? A.—To receive the preliminary report of the fact-finding committee, Dr. McGovern chairman.

Q.—That is the committee which you say was appointed on June 1? A.—Yes.

Q.—Where you present at that meeting? A.—Yes.

Q.—Do you recall now, independently, from your recollection, what occurred at that time? A.—Dr. McGovern reported for his committee that they had diligently been seeking the information desired regarding Group Health Association, and had been able to obtain no official information to communicate.

Q.—Do you recall whether you made any report at the time with reference to what you had attempted to do? A.—Yes, I reported my attendance at the American Medical Association meeting; my efforts to communicate something of these facts, and rumors, to the House of Delegates.

Q.—Did Dr. Verbrycke make a report at that time, do you know? A.—June 21, I think. That was the meeting at which he submitted a report as chairman of the economic committee.

Q.—I will just show you what has hitherto been offered in evidence as the minutes of the special meeting of the executive committee of the Medical Society, June 21: Will you glance at those and see if in any way they refresh your recollection as to what occurred at that meeting? A.—He reported at that meeting that he had met with the fact-finding subcommittee, he as chairman of the economic committee; that I had been present by invitation; that from what information could be obtained that the prospectus before us indicated a movement which was not a drop in the bucket to what this movement might grow to; that certainly the next thing should be the executive committee should notify—

Mr. Lewin:—Wasn't that report in writing; and if it was I will object to this testimony.

Mr. Leahy:—It was not in writing; this portion was not in writing.

Mr. Lewin:—Are you refreshing your recollection or testifying independently?

THE COURT:—If he is relying solely on the minutes, why don't you tell him to read the minutes?

Mr. Leahy:—Dr. J. Russell Verbrycke Jr., who was present by invitation, stated that he, with the subcommittee and the executive committee, had had a meeting, and it was ascertained that the Home Owners' Loan project for giving medical care was not a drop in the bucket to the widespread plan for taking care of all Government employees. Dr. Macatee had been present at the meeting by invitation. Mr. Ross Garrett appeared to have a great deal of information which he divulged to the committee.

Q.—Who is Ross Garrett? A.—He is administrator of Health Security Administration.

Q.—What is Health Security Administration? A.—It is an eleemosynary institution for bringing contact between indigent

and near indigent patients with facilities for their medical care, in hospitals and dispensaries.

Q.—Under whose supervision is it administered?

Mr. Lewin:—Objected to as immaterial.

THE COURT:—Sustained.

Mr. Leahy:

"It was decided that it was only right that the executive committee should know all the facts and, therefore, Dr. Brown and Mr. Russell should appear before the executive committee and give all the facts."

Q.—Who was Dr. Rolfe Brown? A.—He was purported to be the newly appointed medical director of Group Health Association.

Q.—And Mr. Russell? A.—He was vaguely in the movement, associated with the movement on behalf of the Home Owners' Loan Corporation.

Mr. Leahy:

"Mr. Garrett has emphasized that any action taken by the Society should be a matter of all haste as he had definite information that the material and wherewithal for setting up a medical care prepayment plan was definitely at hand. It was ascertained that the Government is allowing free time for the activities destined to bring a plan of medical care to Washington. No one seemed to be able to find out whether Dr. Brown and Mr. Russell were on the Government payroll. It was mentioned in this connection that with various New Deal projects workers were not always shown to be on the payroll but their source of income from the Government appeared unmistakably. Dr. Verbrycke reported at this point with a detailed plan that had been organized by the subcommittee as an acceptable substitute for the cooperative medical service plan."

"Dr. Verbrycke stated that he had sent by air mail an outline of the cooperative medical service plan to Dr. W. C. Woodward, and requested that Dr. Woodward meet with him in Washington. Every effort was made by Dr. Woodward to ascertain who was financing the project. He met with little success with his inquiries."

"It was stated that Dr. H. C. Macatee at the meeting of the House of Delegates in Atlantic City, outlined the plan that was all ready for trial in Washington. It seemed as though the attitude was: "We are sorry; we have no solution; you work it out."

By Mr. Leahy:

Q.—Doctor, do you recall what the plan referred to in the abstract as a detailed plan that had been organized by the subcommittee was? I don't want the details of it. A.—It was a report made by the committee on economics, Dr. Verbrycke, chairman, in which the salient principles of some cooperative plan might be considered by the medical society to offer to the public.

Q.—I am not going to take the time to read all the excerpts which were made, or the abstracts of those who talked at that meeting. But in the executive committee meeting we had Dr. Verbrycke, Dr. Macatee, Mr. Garrett, Dr. Verbrycke again, Dr. Lawn Thompson, Dr. Earl Templeton, Dr. Thomas Neill, again Dr. Macatee, and again Dr. Macatee. Do you know whether any official action was taken by the executive committee at the conclusion of this meeting on June 21, 1937?

Mr. Lewin:—Will you ask him whether he knows that independently of these minutes?

THE COURT:—Those minutes are the best evidence of that, Mr. Leahy.

Mr. Leahy:—No, not if he has an independent recollection: I think he may state it. They are not verbatim; they are abstracts.

THE COURT:—Any resolution reporting the action would reflect the official action.

Mr. Leahy:—If there was a resolution, your Honor, yes.

By Mr. Leahy:

Q.—Do you recall whether any action was taken by the committee?

Mr. Lewin:—I object to it on the ground that the resolution indicates the formal corporate action and is the corporate action.

THE COURT:—The minutes are the best evidence. If there is any question about it, you may inquire further, but if there is no question, then the minutes do show what, if any, action was taken.

Mr. Leahy:—I was not trying to prove the contents of any resolution.

By Mr. Leahy:

Q.—Was there any action taken at all at that meeting?

Mr. Lewin:—Objected to. The Court has already passed on it.

Mr. Leahy:—I am just asking him yes or no.

Mr. Lewin:—Yes, I know that, but I object to it.

THE COURT:—Those minutes would show it. He can look at the minutes.

By Mr. Leahy:

Q.—Glance at those minutes. A.—Yes, there was action taken.

Q.—Will you kindly indicate in the minutes what action was taken by the executive committee? A.—“The Secretary made a motion that a special meeting of the executive committee be held on the evening of Wednesday, June 23, and that Dr. Henry Rolfe Brown be informed that his presence would be welcomed; also the presence of any of his confrères.

“This motion was seconded and in the discussion the question of executive session on that evening was brought out. It was decided that this could be worked out afterward. This motion was adopted.”

MARCH 21—AFTER RECESS

TESTIMONY OF DR. HENRY C. MACATEE

DIRECT EXAMINATION (RESUMED)

By Mr. Leahy:

Q.—Doctor, I was just asking you about the special meeting of the Executive Committee of the Medical Society of the District of Columbia under date of June 21, 1937. Would you kindly glance those over, please, and see if that paragraph correctly records what you stated on that occasion? Does it correctly record what you said, Doctor? A.—The minutes do not convey the spirit of what I said on that occasion.

Q.—What did you say on that occasion? A.—I said substantially what I said on a previous occasion in which I stated that the record would have to be qualified by my conviction that so far as the Medical Society itself could proceed in this or any similar circumstance it would have to be limited by its own constitution and by-laws, and what it could do under the constitution and by-laws in disciplining its members if they should become involved adversely with any provision of the constitution and by-laws, and that, so far as hospitals were concerned, we should only exert an influence through our own members so far as that might go.

Mr. Kelleher:—May we have the statement read to which the witness is referring?

Mr. Leahy:—Yes. You mean the statement from the minutes?

Mr. Kelleher:—The statement of Dr. Macatee.

Mr. Leahy:—The statement by Dr. Macatee is in the minutes, on the third page, and I will read everything he said:

“Dr. H. C. Macatee, in addressing the meeting, stated that the Principles of Medical Ethics of the American Medical Association had been amended at the meeting in Atlantic City so that the interpretation of the free choice of physicians would be broadened with the idea of adjusting itself to the various compensation laws. He then recited some of the details of his attempts to bring to the House of Delegates the important situation that now confronts the profession in Washington. It was not until Thursday, the last session of the Delegates, that he was able to bring the matter on the floor, and as stated scant attention was given to it. Details of Senator Lewis's presentations to the House of Delegates were given. It appeared that the Senator had come before the House of Delegates with the knowledge and approval of the Nation's Chief Executive. He let it be known that the President was sympathetic with the American Medical Association and its motives, and he, Lewis, wanted to be advised as to just what the profession wanted done. The Kopetzky set of resolutions were definitely tied in with a conference”—

Mr. Lewin:—The part that you are reading now—does not that refer to something else that is not germane to this case?

Mr. Kelleher:—And it is not in evidence, either.

Mr. Leahy:—Oh, yes; it is all in evidence:

“The Kopetzky set of resolutions were definitely tied in with a conference that had been held at the White House last April, at which Miss Esther Everett Lape and other socially inclined members of the profession were present. Specifically, representatives of the American Medical Association were excluded. In effect Kopetzky's series of resolutions, after going to a reference committee, were in essence similar to what was given two years ago to the plan sometimes known as the Washington Plan presented by Dr. Macatee. In effect the American Medical Association had accumulated considerable data and these data were available to the various state societies and to the workers in the United States Government. The plan from New York was predicated on the principle that care of the sick indigent was a taxpayers' problem; that the doctor should be paid for taking care of them; further, that hospitals should be financed by the Government and that no longer would there be many hospitals in bad financial straits; further, the Government would subsidize scientific investigations of various hospitals.

“Dr. Macatee, in summary, stated that two ways available in combating or controlling any such scheme as recently proposed in Washington might probably be handled (1) through disciplining our own members who undertook to participate and (2) the possibility of doing something to recalcitrant hospitals through pressure on their staffs. He mentioned the various cooperative plans that were now in force; that the Ross-Loos Plan of California and various county societies had through their medical societies handled the situation. There was now a bill before the legislature in the state of Wisconsin that would definitely

prevent any interference with doctors who were members of societies in their activities in any scheme of socialized medicine. In other words, the societies would be prohibited by law to discipline their members.”

By Mr. Leahy:

Q.—Does so much of what you state, Doctor, with reference to the bill in the state of Wisconsin legislature, represent what you said on that occasion? A.—I take it, Mr. Leahy, that it does. That was a very discursive report as Delegate, having recently returned from a meeting of the House of Delegates.

Q.—Doctor, in pursuance of the motion which I read this morning from the minutes, that Dr. Brown and Mr. Russell should be invited to the District Medical Society to a special meeting on June 24, do you recall now whether Dr. Brown appeared on June 24? A.—They were invited to appear on June 23 and actually appeared on June 24.

Q.—Who was there on June 24 with Dr. Brown, if anybody? A.—Mr. Penniman and Mr. Zimmermann.

Q.—Were you present at that meeting? A.—I was.

Q.—Do the minutes record those who were present for the District Society? A.—As I recollect it, the minutes record those present accurately.

Q.—I will show you what purports to be an abstract of the minutes, with a verbatim statement of the statements which were made at that meeting. Do you recall whether they represent what was said on that occasion? A.—I have read this exhibit, or one identical with it, and I think it accurately records the proceedings.

Mr. Leahy:—I am not going to take the time, ladies and gentlemen of the jury, to read all this; it is too much. There are some portions which I would like to bring to your attention, more particularly a statement by Dr. Conklin which was given toward the end of the meeting, as well also as a statement by Dr. Groover:

“Dr. Conklin:—

This is toward the end of the meeting—

“I think that all of us present tonight appreciate just what these gentlemen have done. They have been kind enough, good enough, to come down and meet with us. They have answered all of our questions and have not denied us at all, no matter what their own personal feelings may have been concerning some of it. We are primarily interested in the patient's welfare. That has been demonstrated time and time again in this country and throughout the United States. I am wondering if they would accept a committee of three of the Medical Society to meet with them with a view of making presentation as clearly as possible of the Medical Society's attitude primarily toward this particular proposition from the viewpoint of the patient primarily. I wonder if that would be acceptable. I have no authority to say that the Medical Society would appoint such a committee, but if that would be acceptable to the Medical Society, do you gentlemen think you would accept a proposition of that kind?

“Dr. Brown:—A further meeting to elucidate certain questions?

“Dr. Conklin:—I am sure there are certain ideas that definitely seem to be fixed. There is a possibility in further conference with three representatives of the Medical Society who would go down to the Home Owners Loan Corporation and talk these things over and see whether or not some alternative proposition will operate that would be acceptable to some eight hundred practicing physicians here in the District of Columbia. I would think it would be a wonderful thing.”

Mr. Lewin:—Will you read what Dr. Brown said?

Mr. Leahy:—Oh, surely:

“Dr. Brown:—Our objectives are identical with those you have expressed. We have no objections to meeting any committee of three. “The Chairman:—To confer with their own committee if they would like to have such a meeting.

“We have a board of trustees,” said Mr. Penniman. “It might not be a bad idea to have as many men as they want to discuss the thing further. There is no question that other units in the Government are going to undertake the same thing.

“Dr. Conklin:—If we may have a definite assurance of tentative acceptance of this plan. I think your coming down has been just the most successful thing with a view to definite harmony. I think that is what we want. We want to see these men and greet these men and have them certainly not fighting organized medicine, because I think any doctor who attempts to do that is doomed to failure. We want to have this committee of three representatives meet with you and talk these things over with a possibility of making some little rearrangement wherein we can come before our entire membership and present this thing and recommend adoption.

“Dr. Brown:—We are anxious for cooperative intercourse. We would be glad to have you consider those plans.

“Mr. Penniman:—I want to say what I should have said and would have liked to have said at the outset. Reversing the words of Shakespeare, I came down with the idea of praising Caesar, not burying him. I have the most profound respect for the medical profession, always have had and always will have. It is the desire of this Association to work to the ultimate end that we may give our employees medical care—I speak not as an official of the Home Owners Loan Corporation, but as one of the employees—medical service of the highest type within their ability to pay and to solicit at every point of view possible the full cooperation of the Medical Society of the District of Columbia. Glad to

have it. I would like to make a suggestion. Since we have a board of trustees consisting of eleven employees of the Corporation who have been elected by the employees, if you would be good enough to drop us a line so we can put it clearly to the board, your point of view, I am safe in saying that it would meet with a ready response.

"Dr. Conklin:—You mean, the point of view as to this committee of three?"

"Mr. Penniman:—Yes."

And at that time Mr. Penniman and Dr. Brown and Mr. Zimmerman left the meeting. Then following a suggestion on the part of the chairman, after those three had retired:

"The chairman said he would welcome a motion to the effect that a copy of these minutes be sent to the active membership so they would know what was going on. It was his opinion that 90 per cent of the membership know nothing about this plan."

Then follow pages of discussion back and forth upon a motion, and finally, after expressions by Ruffin, Bennett, Hooe, Schoenfeld, and I don't know how many more, there was a motion.

By Mr. Leahy:

Q.—Was a motion adopted, Doctor? I am just asking you because I think there was, but I cannot find it in quickly looking this over. A.—A proposition was adopted at that meeting finally, and a committee to carry out the purposes suggested by the secretary was authorized.

Q.—Was a committee appointed? A.—My feeling is that Dr. McGovern's committee was continued for that purpose.

Mr. Lewin:—It gives the names of the members of the committee.

Mr. Leahy:—Dr. F. X. McGovern, chairman; H. C. Macatee, Earl R. Templeton, William P. Herbst Jr., Coursen B. Conklin.

The Witness:—That was the same committee. That was part of the old committee, but evidently revamped for those purposes.

By Mr. Leahy:

Q.—Did you serve as a member of that committee, Doctor? A.—I did.

Q.—Do you recall now the date upon which you went down to talk with the board of trustees of the G. H. A.? A.—That was July 26, 1937.

Q.—In the interval can you recall whether the committee which had been appointed on June 1 in order to try to get some information and data about G. H. A. was still functioning? A.—Yes, sir. It reported to a meeting of the Executive Committee on July 12, 1937. Q.—I now show you what has already been introduced in evidence as the minutes of the Executive Committee of the Medical Society of the District of Columbia for July 12, 1937. Are these the minutes of that meeting to which you just referred? A.—I have seen that exhibit, and I think it is a fair transcript of what occurred.

Mr. Leahy:—That is a long time, too, ladies and gentlemen. I am not going to take your time to read all of it—just a few excerpts:

"Dr. F. X. McGovern, Chairman of the subcommittee that was appointed to confer with representatives from the Group Health Association, Inc., was recognized and made a motion that his report be given preference over the other agenda for this meeting and that it be heard at this time. It was duly seconded and adopted.

"For the information of the new members of the Executive Committee Dr. McGovern outlined the prepayment medical care plan that has been set up by the Home Owners Loan Corporation, stating that the Executive Committee had appointed a subcommittee to meet with the committee on Medical Economics to study the prospectus and bring a report back to this committee. A report which was prepared by Dr. J. Russell Verbruycke, who was then the chairman of the committee on Medical Economics, was approved in principle by the Executive Committee at a subsequent meeting. Since that time the subcommittee has met and studied and reviewed supplementary plans by Dr. Verbruycke which Dr. McGovern offered as a report of the Executive Committee tonight.

"Dr. H. C. Macatee interpolated for the information of the new members of the Executive Committee that upon the adoption in principle of the report of the subcommittee, the subcommittee was given instructions to negotiate on the basis of the report with the Medical Service Corporation, and this supplementary report is now made to gain alternative instructions.

"Dr. McGovern, in answer to why the subcommittee had not met with the Group Health Association representatives up to this time, said that his committee did not feel that it was ready to meet until it had something concrete to offer. He stated that within the past week Dr. Olin West, Secretary of the American Medical Association, was in the city and met with the committee and it was felt that very important information was obtained through this meeting. He added that he had a telegram from Dr. West stating Drs. W. C. Woodward and R. G. Leland, the latter Director of the Bureau of Medical Economics of the American Medical Association, would be in Washington Wednesday morning of this week."

Then other members spoke, including Dr. Templeton and Dr. Sprigg and Dr. Hooe, and then Dr. McGovern again. Dr.

Ruffin spoke, and Dr. McGovern added that his committee "did not know just what the attitude of the Executive Committee of the Society would be, whether to fight this thing with the weapons at hand or possibly set up an organization to combat it. The committee felt that some definite instructions should be given along that line."

Then followed talks by various members of the committee, and Dr. Macatee spoke and said that he had talked to a patient who was an attorney in the Corporation, and he said it could be done perfectly legally, and that if his recollection was correct the papers had gone over this attorney's desk and they could do anything not contrary to the law or the Constitution for the benefit of their employees.

"With respect to the duties of the subcommittee Dr. Macatee pointed out that according to the letter which was addressed to the members of Group Health Association it was clear that at least one medical man had made a contact with the Group and that they are on the verge of going into action. It had been thought by the subcommittee that we could probably go before the trustees and we could ask them what their prospectus meant when it said that they wished to enter into the fullest cooperation with the Medical Society of the District of Columbia, to ask for representation on their board in an advisory capacity and they wished to do their work in a harmonious way. We thought we might say to the board of trustees that the Medical Society had looked upon the organization with some concern."

The point was raised as to whether the subscribers would not, in the long run, have the free choice of physicians, and whether they understood that as soon as some grave medical problem arose among the employees they would follow the usual human instinct and say, "We don't want these hired men; we want 'he best,'" whether that would be disruptive of the whole plan whether in view of those facts or other facts they might not feel that the principle of organized medicine, that the free choice of a physician is essential to the success of any proposition, and whether they might convey something looking to the entire medical profession of the District as a source of the medical and surgical services needed.

"If they could consider that we would be glad to take it up with the Medical Society and see what could be worked out. It is for this committee to decide whether it is likely that any good will come from such a meeting."

There followed discussions by the secretary, Dr. Ruffin, Dr. Hooe, and then the motion which theretofore had been offered was withdrawn.

"Dr. Ruffin made a motion that the subcommittee be instructed to meet with the Home Owners Loan Corporation representatives to be addressed by Dr. Macatee along the lines discussed and bring a report back as promptly as possible to the Executive Committee with a view to a meeting of the Medical Society. Seconded and carried."

There followed a good deal of other talk with reference to other matters which are not germane to the point here.

By Mr. Leahy:

Q.—Doctor, I want to ask you whether, in pursuance of that motion made by Dr. Ruffin, you did meet, you personally, and address, along the lines discussed, the board of trustees of the Home Owners Loan Corporation? A.—I did.

Q.—And that was on June 26? A.—July 26, 1937.

Q.—There is a matter contained in the minutes of the meeting of July 12 which I would like to have you explain, please. And that—I think I am right in my memory—is with reference to a supposed or a so-called approved list or White List. Do you know to what I refer? A.—Yes, sir.

Q.—Am I correct in saying that this matter also came before the attention of the meeting on July 12? A.—It did.

Q.—Do you recall, Doctor, at what date, if any, any authorization was made to prepare an approved list which has been called a White List? A.—That was incorporated in the constitutional amendment adopted in March 1937, in which the Executive Committee was charged with the duty of preparing such a list.

Q.—Do you recall whether anybody upon the Executive Committee had been working upon the list from the date in March when authorization therefor was made? A.—There was a subcommittee of which Dr. McGovern was either chairman or a member, which was working on that duty.

Q.—I ask you, Doctor, if the preparation of an approved list had anything whatsoever to do with Group Health Association? A.—Nothing whatsoever.

Q.—I will ask you further what the approved list resulted from as an activity of the District Medical Association? A.—It resulted from a hearing on a complaint by the Executive Committee against an industrial clinic which, in turn, resulted in the original adoption of Chapter 9, Article 4, Section 5, which was amended in March 1937.

Q.—Do you recall, Doctor, whether or not any legal advice had been sought by the Society with reference to the amendment of this approved list?

Mr. Lewin:—I object to that, may it please the court, as totally irrelevant, incompetent and immaterial.

THE COURT:—What was the question?

Mr. Leahy:—I asked the Doctor whether he recalled, with reference to this approved list, and also the amendment in March, under which the approved list was authorized, any advice of counsel had been sought and, if so, from whom?

THE COURT:—Is that the White List?

Mr. Leahy:—Yes, sir.

THE COURT:—Objection sustained.

Mr. Leahy:—May we approach the bench for just a moment, if your Honor please?

THE COURT:—Yes.

(Counsel for both sides approached the bench and conferred with the Court in a low tone.)

(There was extended discussion at the bench dealing with the nature of testimony that could be offered showing the chronology and events leading to the development of the approved list of organizations. The Court ruled that testimony by an attorney to show the Society took counsel was irrelevant and immaterial.)

Mr. Leahy:—Doctor, I think just before recess I was asking you some questions about the approved list. I will read from the minutes on page—sometimes it is 11 and sometimes 14, of the minutes:

"Dr. McGovern stated that he requested the various county medical societies in Virginia and Maryland, within 10 miles of the District of Columbia, to send him a list of their membership. He was not very successful by letter and intended to contact the secretaries personally. He added that there were a few physicians practicing medicine in the District of Columbia who were not on the rolls of the Society. The Society's office was busy at the present time checking the list of physicians and surgeons as classified in the newest telephone directory and the Commission on Licensure had been approached to obtain a list of all licentiates in the District of Columbia.

"The Chairman, Dr. Sprigg, stated that he requested a list of the licentiates and the Society's office was informed that the records of the Commission on Licensure would be available if the Society could supply clerical help to type the list.

"Dr. McGovern read a proposed list of approved organizations, groups and individuals.

"Dr. Macatee suggested that the words 'employed by' be substituted for the words 'connected with' in item 10. With this change the list was approved, upon motion, duly seconded and adopted, as follows:

"1. All members of the Medical Society of the District of Columbia.

"2. Medical staffs of all hospitals, institutions and clinics, each member of which has been approved by the Medical Society of the District of Columbia.

"3. The United States Government Medical Personnel on duty in the District of Columbia, or within 10 miles thereof, i. e., the United States Army, Navy, Public Health Service, and the Veterans' Administration.

"4. The Health Officer and attached medical personnel.

"5. Membership of the District of Columbia Dental Society.

"6. Membership of the Homeopathic Medical Society.

"7. Members of the Montgomery County (Md.), Prince Georges County (Md.), Fairfax County (Va.), and Arlington County (Va.) Medical Societies, who reside within 10 miles of the District of Columbia.

"8. Members of the Alexandria Medical Society.

"9. The following compensation clinics: Farragut Medical Clinic, operated by Frank E. Gantz; First Aid Station, operated by Arch L. Riddick; Harry M. Lewis Clinic, operated by Harry M. Lewis; Market Compensation Accident Clinic, operated by M. J. Kossow; Northeast Insurance Clinic, operated by G. Henry Rawson; Union Market Workmen's Compensation Clinic, operated by Maxwell Hurston; Washington Industrial Accident Clinic, operated by Edward Clark Morse; Washington Medical Building Workmen's Clinic, operated by Charles S. White.

"10. All medical personnel employed by the Federal or Municipal Governments within the District of Columbia or within 10 miles thereof.

"11. Membership of the Medico-Chirurgical Society (colored medical society).

"12. Membership of the Robert T. Freeman Dental Society (colored dental society).

"Dr. Raymond T. Holden Jr. inquired as to the personnel (medical) of the proposed Group Health Association, Inc.

"Dr. Hooe pointed out that it was a separate individual corporation and would have to be approved as a single unit. As a matter of information, Dr. Hooe would inquire if he was right in the assumption that this approved list would not have to be submitted to the Society but from tonight on would be filed in the Secretary's Office for reference."

Then follow certain discussions with reference to that by Dr. Hooe, the Secretary and Dr. Ruffin.

"Dr. Macatee said he understood that the list as read by Dr. McGovern was not a complete list. Was it to be assumed that when it was added to that another registered letter would have to be mailed to nine hundred or more members?

"Dr. Hooe said that there were a good many fine men who were not members of the Medical Society, such as Drs. Henry R. Elliott, R. J. Kemp and others. When these individual names were obtained they would be submitted by Dr. McGovern to the Executive Committee for approval.

"Dr. Hooe's motion, with amendment by the Secretary, was duly accepted."

By Mr. Leahy:

Q.—Doctor, do you recall to what you referred when you said that you understood that the list as read by Dr. McGovern was not a complete list? A.—Dr. McGovern, in making his report, spoke of the great difficulty in formulating a complete list, said he had incomplete information from the surrounding counties; incomplete information from our own district, and that was the best he could do at the time.

Q.—Did that approved list, as it came before the Executive Committee on July 12, 1937 have anything whatsoever to do with the approval or disapproval of Group Health Association, Incorporated? A.—It did not.

Q.—Why not? A.—Because Group Health Association had not been at a stage of development where it had asked for approval or where approval could be given for lack of information.

Q.—Did the Executive Committee at that time consider that it had sufficient information about Group Health to approve or disapprove Group Health Association? A.—It did not.

Q.—Did you tell us that this approved list had been authorized in March of 1937? A.—It had been directed to be prepared.

Q.—And was that in connection with any constitutional amendment which had been adopted? A.—It was part of that constitutional amendment, as I understand it.

Q.—Do you recall whether subsequently the list was mailed as directed by the Executive Committee on that night to each member of the Medical Society? A.—I am so informed.

Q.—There was, was there not, a direction, on that evening, to mail that to each member of the Medical Society? A.—Yes.

Q.—Do you recall whether at any time there was any direction by the Executive Committee that it should be mailed also to the hospital? A.—There is not within my recollection.

Q.—Do you recall when it was that the list was mailed? A.—By reference to the record I find that it was mailed July 29, 1937.

Q.—With the exception, Doctor, of this approved list in that particular meeting, what, other than what we have drawn attention to, and what is contained in the minutes, occurred, or was said or done with reference to Group Health Association on July 12, 1937? A.—Nothing.

Mr. Lewin:—May I have that question read?

Mr. Leahy:—The substance of the question is was there anything which was said or done which is not recorded in the minutes.

The Witness:—Nothing.

Q.—Now, do you recall, following this meeting of July 12, when next anything was said and done, or done by the District Medical Society, or the Executive Committee thereof, with reference to Group Health? A.—The subcommittee of the executive committee met with the Board of Trustees of Group Health Association.

Q.—And what was the date of that meeting? A.—July 26, 1937.

Q.—Do you recall now who were present at the meeting, representing the subcommittee of the Medical Society of the District of Columbia? A.—Dr. McGovern, Dr. Conklin, Dr. Verbyck by invitation; Dr. Groover, and I think Dr. Templeton was there, but I am not sure.

Q.—Did you mention Dr. Conklin? A.—Yes.

Q.—By the way, Dr. Groover is dead now? A.—He is.

Q.—And where did you meet that evening? A.—In a large room at the office of the Home Owners Loan Corporation.

Q.—And where was that located at that time? A.—I don't know; I think Indiana Avenue and First Street.

Q.—Do you happen to have with you a photostatic copy of what occurred at that meeting? A.—No, I have not.

Q.—Do you recall at that time, Doctor, whether you personally discussed with the Board of Trustees of Group Health Association the questions pertaining to Group Health Association, and the attitude of the District Medical Society thereto? A.—I did, as instructed by the meeting of July 12, I think it was.

Q.—While you are looking for the exhibit, Doctor, following that meeting was any report made to the District Medical Society with reference to it? A.—There was a report to the executive committee at the meeting of July 27, the following day, and then a report from the executive committee to the Medical Society on July 29, special meeting.

Q.—Does the exhibit which I now ask you to look over record what was said by the representatives of the subcommittee on that particular occasion? A.—It does, surprisingly well.

Q.—I will ask you, Doctor, if your statement begins as recorded at the bottom of page 1. A.—Yes.

Q.—And did you open the meeting in accordance with the motion which was made earlier, on June 24, meeting of the executive committee? A.—Wasn't it July 12?

Q.—July 12 meeting? A.—Yes.

(Here was read in full again Dr. Macatee's statement of July 26, 1937 as published previously in the testimony of Mr. Penniman.)

And then follows a further discussion on the subject by Dr. Groover.

By Mr. Leahy:

Q.—Now, Doctor, do you recall whether anything further was said or done at that particular meeting that is not recorded here in the minutes? A.—I do not.

Q.—Do you recall whether at any time following this meeting of July 26, 1937 any further or additional information was given to your subcommittee by Group Health Association that you did not have on July 26 when you discussed the matter with them? A.—No information was ever voluntarily given us, that I know of.

Q.—Was there any information given at any time with reference to any of the suggestions which you brought to the attention of the Board of Trustees that night with reference to answering the question as to the legality of G. H. A., and the question you had raised about it? A.—The Medical Society had no further official communications from Group Health Association that I know of.

Q.—Of any kind or character? A.—I say of any kind or character.

MARCH 24—MORNING
TESTIMONY OF DR. HENRY C. MACATEE
DIRECT EXAMINATION (RESUMED)

By Mr. Leahy:

Q.—Doctor, I believe that on last Friday you had just told us of the meeting which was held on the 26th day of July between the board of trustees of G. H. A. at H. O. L. C. headquarters and the committee of the District Medical Society. Do you recall whether any report of that meeting was made to the District Medical Society? A.—Oh, yes; there was a report made by the committee; yes.

Q.—Do you recall what day that report was made? A.—It was made, first, to the Executive Committee on the 27th of July, and from the Executive Committee to the Medical Society on the 29th of July.

Q.—I am going to show you what purport to be the minutes of that meeting of the Executive Committee on the 27th day of July. Will you kindly look those over and see if you can identify them, Doctor? A.—I have read this photostat of the minutes recently, and it is a record of the action of that meeting.

Mr. Leahy:—Just a brief excerpt, ladies and gentlemen, from the minutes of the meeting of the Executive Committee:

"A special meeting of the Medical Society of the District of Columbia, held Tuesday evening, July 27, 1937 at 8 p. m.

"Dr. F. X. McGovern, chairman of the subcommittee that had been appointed to make contact with the Home Owners Loan Corporation medical unit, was called upon to make a report. He opened his remarks by stating that pursuant to recommendations made at the last special meeting of the Executive Committee he had prepared a letter which was sent to Mr. William F. Penniman in which letter request was made for copies of (1) contract of the Home Owners Loan Corporation; (2) adopted constitution and by-laws; (3) form or forms of applications for membership, and (4) any form of contract or agreement setting forth the service to be rendered to employees and their dependents.

"Dr. McGovern stated that Mr. Penniman had not given him a written answer but had called him up and asked that he have luncheon with him at the Raleigh Hotel. On this occasion he frankly stated that he would give responses to the questions asked in the registered letter that had been received, but copy of contract asked for he said he would have to refuse to exhibit. He thought the Medical Society's asking to see this contract was quite similar to going into Garfinkel's department store and asking them to show the contract they had with some firm with which they were doing business. Dr. McGovern then proceeded to read the prepared report as follows:

"Known facts in re the Home Owners Loan Corporation.

"1. Corporation, Group Health Association, Inc.

"2. In Home Owners Loan Corporation with which it had a contract.

"3. Mr. W. F. Penniman is president, Mr. R. T. Berry is secretary-treasurer. Dr. Henry Rolf E. Brown is medical director.

"4. Instituted presumably to give medical care, complete, to any and all members of the H. O. L. C. who may care to join in.

"5. Non-profit voluntary prepayment insurance organization.

"6. Must be in some way related, possibly by contract, to Home Loan Bank Board.

"7. President, Mr. Penniman, avoided replying by letter to an official letter from the Society to him.

"8. Mr. Penniman refused to give your committee a list of physicians employed by the corporation.

"9. Articles of incorporation so worded that all Federal Employees except Army and Navy may belong.

"10. President, while he states that purpose of the corporation is to provide medical service to low-income individuals, at the same time admits that the constitution and by-laws do not establish any income level.

"11. Invites attention to many other similar organizations in existence throughout the country and claims they do the job better than would otherwise be done.

"12. The lay members of the board of directors sincerely believe that they are performing a needed helpful and humanitarian function for their employees and apparently are firmly convinced that nothing that they are doing is in conflict with the established ethical principles of organized medicine.

"13. Dr. Brown is a physician recently retired from the Veterans Bureau and is being paid a good, under the circumstances, salary as Medical Director. Licensed in the District May 21, 1937.

"14. Whereas the officers of the Corporation express a desire to cooperate with the Medical Society of the District of Columbia, it is a fact that in the beginning and at all times there has been no real effort made to apprise the Medical Society of the District of Columbia of what they were undertaking. They have not considered officially the Medical Society of the District of Columbia during the formative stage of their organization. On the contrary there seems to have been a desire to keep the matter confidential.

"15. Meeting with officials of the American Medical Association on two separate occasions convinces us that the national organization is keenly interested in the whole affair and is solicitous as to how we will consider its relation to us locally and what policy the Medical Society of the District of Columbia will adopt in regard to it.

"16. What might be done:

"1. Consider it unethical.

"2. Control our own members in terms of the ethical requirements of our own constitution and by-laws.

"3. Offer a substitute plan of our own.

"4. Cope with the situation in the courts in terms of the local healing arts practice act.

"17. Your committee met with the board of directors of Group Health Association, Inc. The attitude of organized medicine in regard to the medical ethics in matters of this kind was fully presented to them. Quotations were read to them from the code of ethics of the American Medical Association and other relevant facts were presented. The only reply was made by a Mr. Loomis, member of the board of directors, to the effect that he hoped that the Medical Society would see fit to withhold final judgment until Group Health Association, Inc. had been in actual operation a sufficient length of time to practically demonstrate its purpose and its relation to the community and to the medical profession of the District of Columbia.

"Dr. H. C. Macatee elucidated the various points that had been brought up before the Home Owners Loan Corporation committee on the preceding evening at its home on the 8th floor of the old Acacia Building, First and Indiana Avenue Northwest. He cited particularly a statement by one of the officers to the effect that if and when the project became large enough to include all of the Government workers of the city of Washington, that is, its scope raised to the nth degree, quoting him exactly, there would be room enough for all of the physicians practicing in Washington, and it was freely intimated that they all could be placed presumably on a salary basis, working for the project.

"Dr. Macatee, in continuing, read an excerpt from the latest issue of the Principles of Medical Ethics of the American Medical Association, having to do with the definition of free choice of physicians, as follows:

"The phrase 'free choice of physicians' as applied to contract practice is defined to mean that degree of freedom in choosing a physician which can be exercised under usual conditions of employment between patient and physician when no third party has a valid interest to intervene. The intervention of a third party who has a valid interest and who intervenes does not per se cause a contract to be unethical. A 'valid interest' is one where, by law or necessity, a third party is legally responsible either for cost of care or for indemnity. 'Intervention' is the voluntary assumption of partial or full financial responsibility for medical care. Intervention shall not proscribe endeavor by component or constituent medical societies to maintain high quality of service rendered by members serving under approved sickness service agreements between such societies and governmental boards or bureaus and approved by the respective societies."

"The ambiguity of the situation was immediately apparent.

"Dr. Macatee said that he certainly did not read this at the time of the meeting with the H. O. L. C. unit. He did, however, read on that occasion extensively from the Principles of Medical Ethics under which the medical profession is bound, showing that the project as at present constituted could not be expected to be approved by the Medical Society of the District of Columbia, the local unit of the American Medical Association.

"Dr. Macatee was rather inclined to think that there should be no hasty action taken at this time and he would recommend that the four possible solutions as prepared by the subcommittee be not read before the Medical Society. He too thought that it might be possible to bring some accord with the Group Health Association."

Then in connection with the visit of Dr. Woodward and Dr. Leland the minutes record as follows:

"The secretary explained just what had been suggested by Drs. William C. Woodward and R. G. Leland at the time of their visit. It would seem that Dr. Woodward would advise quo warranto proceedings, which proceedings would require a district attorney or United States Attorney for the District of Columbia, who at least was not hostile, that the suit would be filed in his name. He saw many difficulties in following this up. Dr. Leland had given a sketchy verbal outline of a plan whereby a pool of money should be created and this could be built up by either the people in the lower income brackets or even in the higher brackets, and from this pool the care of the sick could be financed."

By Mr. Leahy:

Q.—I am going to show you on page 34 a motion and ask you if you can identify that for us and explain what it is. However, I should conclude the paragraph which I just read with reference to Dr. Woodward and Dr. Leland and their visit:

"The secretary stated that the very next morning after the meeting he wrote to Dr. Leland asking for full details of this plan. Up to date he had received no reply. The secretary opined that the American Medical Association authorities certainly did not have any definite knowledge as to how to proceed in combating the situation that was confronting the Medical Society of the District of Columbia.

"The secretary said he was quite sure that he was in accord with everything that Dr. Reed wanted passed. He would make two motions if acceptable to Dr. Reed:

"1. That a special meeting of the Medical Society of the District of Columbia be called for Thursday, July 29, 1937 at 8 p. m.

"2. That a recommendation be made that the president of the Society appoint a special committee to consider the entire matter with a view to bringing accord, if possible, with Group Health Association, Inc.

"In view of the fact that many of the members thought that report should be made back to the Executive Committee Dr. Reed's motion was finally made to the effect that the chairman of the Executive Committee appoint three of its members to act as a subcommittee, they to add two members of their selection from the Society at large for the purpose of further studying Group Health Association, Inc., with a view of bringing back to the Executive Committee a solution concerning what the Society's attitude should be toward Group Health Association, Inc., and to report to the Executive Committee at its next regular meeting. A motion was made concerning the registered letter that was to be sent out."

That was to a list of organizations, groups and individuals. It was seconded and adopted.

By Mr. Leahy:

Q.—Doctor, I will ask you whether or not in pursuance of the motion which I have just read with reference to holding a special meeting of the Society, and the motion that there should be three members of the Executive Committee appointed to make a further study of the Group Health situation with reference to determining the attitude of the Society, whether or not they were adopted. A.—They were.

Q.—(Reading):

"It was also adopted that the fullest information in the hands of the Executive Committee be presented to the Society's membership at its special meeting on Thursday evening, July 29."

Doctor, I think you stated that on the 29th day of July that special meeting of the Medical Society was held. I will ask you to look at those minutes which I have just now shown you and see if you can identify those as the minutes of that special meeting. I have read this photostat copy recently and it sets forth the transactions of that meeting.

Mr. Leahy:—I am not going to repeat the report which I just read to you as the report of Dr. McGovern to the Executive Committee, which contains what he considered to be and stated as the known facts, some sixteen, which the committee at that time knew about G. H. A. The Executive Committee presented its report, and I am not going to reread that. Then there was discussion by Dr. Thompson, Dr. Hooe, Dr. Sprigg, and then Dr. McGovern was called upon to discuss the question. He stated:

"that he was the chairman of the subcommittee of the Executive Committee that investigated this matter thus far. He brought out the fact that the purpose of this meeting tonight was to inform the membership of the situation and to familiarize them with the facts obtained to date with an idea of turning it over in the minds of the membership and arriving at some conclusion as to how the Society should act in the matter. He felt that it was apparent from the report that the Group Health Association was not willing to 'come clean.' It was specifically stated that Mr. Penniman, its president, refused to comply in writing to an official communication addressed to him from the Society. In that letter four specific requests were made: that they submit copy of any contract they may have between the Group Health Association and the Home Owners Loan Corporation with the Federal Home Loan Bank Board; copy of their constitution and by-laws; and any contract that may be in existence in relation to the members of this corporation; and any other matter that would be of importance to the Medical Society. Dr. McGovern pointed out that the communication was sent by registered mail. Mr. Penniman called him by telephone asking that he have luncheon with him where these matters could be discussed. After consulting with officials of the Society Dr. McGovern accepted the invitation to meet Mr. Penniman at luncheon at the Raleigh Hotel. Dr. McGovern made it emphatic that he was not authorized to commit the Society in any way. Mr. Penniman was willing to give some of the information desired, but when asked for the contract between the Group Health Association and the Federal Home Loan Bank Board, he refused, stating that the Medical Society had no more right to ask for that than they would to go down to Garfinckel's department store and ask to see a contract that the store had with an express company, for instance. Dr. McGovern felt that it was definite that they had some kind of contract and they are not desirous that anybody should see it. In this connection he would add

that the American Medical Association, through Dr. W. C. Woodward, tried diligently, spending a whole day in the building of the Home Owners Loan Corporation, going from office to office, trying to get a glance at the contract, without success. Dr. McGovern felt that the contract itself did not interest the Medical Society as much as it did interest the A. M. A. If there is a connection between the Federal Home Loan Bank Board and the Group Health Association, and the Board is spending money, they are spending taxpayers' money which makes it a national entity. As far as the panel doctors are concerned, Mr. Penniman said he did not think it was appropriate for the Medical Society to have a list of the panel of physicians who have already been employed. He added that it is a well known fact that members of the Society have been approached. It also is a known fact that doctors have been asked to come in from the outside; that Dr. Brown has talked to them.

"Dr. McGovern said that property had already been leased for the housing of the clinic on I Street, between 13th and 14th streets. There was no doubt in his mind that the lay members of the board of directors of the Group Health Association are thoroughly convinced that they are doing a splendid thing for their employees. He was further convinced that they are not doing anything that might be considered unethical by them.

"Dr. McGovern called attention to an article which appeared in the *Evening Star*, in which it was announced that Senator Lewis had introduced a resolution in the Senate of the United States to provide medical care for the needy and the stricken with illness, etc."

I will not read the resolution which Dr. McGovern read, because it is not particularly interesting to us at this time. Dr. McGovern continued further with reference to Senator Lewis's speech at Atlantic City, N. J., at the convention, and Dr. Willson spoke, and then Dr. McGovern stated:

"that in the articles of incorporation they are going to give complete medical care and hospitalization. It would not be found out as to how they plan to do that. He pointed out that it is incorporated to include all Federal employees, except Army and Navy. He thought possibly they would have the free use of the local hospitals.

"At this point Dr. Charles R. Fierst, of Silver Spring, Md., addressed the Society."

"Dr. H. C. Macatee was recognized. He reiterated the plea of the chairman of the Executive Committee that if any members had ideas on this subject, or information about it, they should submit it to the committee for investigation. He said he would like to express his personal feeling about this matter, for whatever value it may have. He was of the opinion that the Medical Society should not take its attitude based on the idea that there are certain scurrilous people who are trying to do a scurrilous thing to the Medical Society and doing it in an underhanded, scheming way. It was his impression, gained from contact with certain individuals, that they are highly intelligent people who have profoundly studied this subject, who are aware of all the social currents flowing through the country with respect to the relation of the medical profession and the people. They are aware of what has been done elsewhere and the results. 'My feeling is that this is a group of responsible, honest, rather public-spirited people, who are undertaking to do something for the benefit of their associates in office. They are convinced and have secured what they call competent legal advice that they are on secure legal ground. They have by reason of their knowledge of similar projects elsewhere become convinced that wherever such organizations spring up they almost consistently receive the antagonism and the animosity of the local medical profession.'

"Dr. Macatee added that he was of the opinion that their desire to avoid publicity in this matter was due to their knowledge of that fact. So far as Dr. Henry Rolf Brown was concerned, Dr. Macatee stated that he has had a distinguished service in the Veterans Bureau, where he was highly esteemed. He was retired on account of age and feels that he is not old enough to be put on the shelf. Dr. Brown has been detached from the organized profession for a long time. He (Dr. Macatee) said he for one did not blame Dr. Brown for taking the position.

"Dr. Macatee, continuing, stated that they had evidently obtained advice from the *Twentieth Century Foundation* and are perfectly aware that similar organizations, such as the Endicott-Johnson Medical Service, which was fought tooth and nail by the County and New York State Medical Society; also the Ross-Loos Clinic of Los Angeles, which was likewise fought tooth and nail by the California organized medicine to the point that the members of that outfit were expelled from membership and then by court order were instated, were in operation. It was because of all these facts that the Executive Committee was recommended that this matter be recommitted for further study as to what will be wise for the membership as well as the public.

"Dr. Macatee added that there is now available a list of corporations and organizations and persons employing physicians in a contractual relationship, prepared under provisions of the constitution and by-laws. He urged the members to take the list and examine it carefully and familiarize themselves with its contents."

By Mr. Leahy:

Q.—Doctor, I want to show you on page 41, the first paragraph thereon, and ask you whether, so far as any knowledge you have is concerned, that is the first information of a Dr. Selders which came to the District Society or any of its members? A.—So far as I know, that is.

Mr. Leahy:—That is at the special meeting of July 29, 1937, when Dr. Charles H. Fierst, of Silver Spring, Md., addressed the Society:

"He said that last evening he overheard a conversation that took place in one of the drug stores in Silver Spring. A man represented himself as a surgeon of this organization and showed the clerk a list of instru-

ments and equipment procured for a clinic to be opened in the 'Evans Electrical Building.' This man told the drug store employee that any major surgery that would be done would be performed in the local hospitals of Washington. Minor surgery would be taken care of in the clinic. By inquiry of the employee of the drug store, Dr. Fierst stated he obtained the name of this man as Dr. Raymond H. Selders, 2445 15th Street N.W., Telephone Adams 5302; that he was formerly from Massachusetts. Dr. Selders applied for a courtesy card at the drug store."

Then there was further discussion by other members with reference to Dr. Macatee's remarks and Dr. McGovern's remarks, and at this point Dr. Sprigg reread the recommendation of the Executive Committee, as amended, as follows:

"That the chairman of the Executive Committee appoint three of its members to act as a subcommittee, they to add two members of their selection from the society at large, for the purpose of further studying the Group Health Association, Inc., with a view of bringing back to the Executive Committee a solution concerning what the society's attitude should be to the above Group Health Association, Inc., and to report to the Executive Committee, subject to the call of the chairman.
"Duly seconded and adopted."

By Mr. Leahy:

Q.—Doctor, did you happen to serve upon that committee which was appointed that evening? A.—Yes, sir.

Q.—Do you recall the composition of the committee? A.—I remember I was chairman of it and that Dr. Groover, I think, was one of the members added at large. Dr. McGovern was a member of it. The other personnel of it has escaped my memory.

Q.—Was there any other action taken by the District Medical Society which is not reported in any of the minutes of the meetings up to this date, July 29, 1937, other than the appointment of a subcommittee to study the matter? A.—None whatever.

Q.—How long did your committee function before you made another report, if you did? A.—The committee functioned from July 29 until its final report on Sept. 27, 1937.

Mr. Leahy:—May I approach the bench for just a moment, your Honor?

THE COURT:—Yes.

(Counsel for both sides approached the bench and conferred with the court in a low tone of voice.)

TESTIMONY OF WILLIAM RICHARDS CASTLE

DIRECT EXAMINATION

By Mr. Leahy:

William Richards Castle said he has resided in Washington since 1918. He was first in the Red Cross for a year, and then in the State Department from the beginning of 1919 until 1933. He was head of the European Division for a while, and then was Assistant Secretary and finally Under-Secretary of State. He identified a letter which he had sent to the addressee.

TESTIMONY OF DR. HENRY C. MACATEE

DIRECT EXAMINATION (RESUMED)

By Mr. Leahy:

The witness identified minutes and said he had been on vacation from the first of August and returned just after Labor Day.

Mr. Leahy:—At the meeting of September 8, which was a special meeting of the Executive Committee, the secretary was called on to make a report in the absence of the chairman of the subcommittee, Dr. H. C. Macatee:

"It was stated that during Dr. Macatee's absence from the city during the month of August, owing to the clamor for action that had been set up by certain society members, it was incumbent upon the committee to hold a meeting. At a meeting which was held in the office of Dr. Thomas A. Groover, it was adopted that Drs. Macatee and McGovern be duly appointed by the Society at large as members of the subcommittee."

The following statement was made as the statement of the committee:

"1. That Group Health Association is unethical and that the participation in it by any member of the Medical Society of the District of Columbia would render him or her subject to disciplinary action by the Society.

"2. Your committee at this time has no definite recommendation to make with respect to combating the activities of Group Health Association other than as embodied by implication in the preceding paragraph.

"3. It is the opinion of your committee that the Medical Society of the District of Columbia should maintain close contact through the chairman of this committee with the American Medical Association in an effort to formulate a suitable and effective policy with respect to combating the activities of Group Health Association.

"It was explained that Dr. Macatee has been duly notified of the committee's activities during his absence and also that it was the desire of the committee to hold a meeting just previous to the meeting of the Executive Committee on this evening. Dr. Macatee had stated over the telephone that this afternoon was very well taken up and it would be impossible for him to be present.

"Upon motion duly seconded the Executive Committee unanimously accepted the report of the subcommittee."

Then Dr. McGovern was called on to speak, as well as other physicians, and then Dr. Macatee was recognized.

"He summed up briefly his stand in the matter, stating that before accepting the subcommittee appointment he definitely told Dr. Sprigg that he was going to be out of town for the whole month of August, and he thought that some one else should serve. Upon insistence he accepted. He was of the opinion that in view of the committee seeing fit to meet this evening and on other occasions during his absence, and having brought in a report without his presence, he should resign and that his resignation from the committee should be immediately accepted.

"Dr. Ruffin and others expressed the hope that Dr. Macatee would not deprive the Executive Committee and the Society of his services which were deemed most valuable in the revamping of the report which Dr. Sprigg and others thought should be in such a form as to be suitable to be sent to each member of the Society and Members of Congress as a dignified expression of organized medicine's stand in the protection of the health of the individual.

"Upon motion duly made and finally adopted the committee was to be continued with Dr. Macatee chairman and the report to be made back to the Executive Committee with a statement involving specifically the violations of the Code of Ethics and the reasons for opposition to the group plan on the basis of the health of the individuals who would be subscribers.

"That portion of Dr. Ruffin's proposal which would refer the matter back to the American Medical Association was stricken out.

"Dr. Macatee announced his willingness to continue and do anything within his power to aid the committee."

Then several doctors talked and further instructions were given with reference to other matters which I do not think are of interest here.

By Mr. Leahy:

Q.—Doctor, do you recall what occurred to the report which was submitted on the 8th day of September of a meeting at which you were not present? A.—Although it was adopted at that meeting, the whole matter was recommitted to the committee and it was superseded by another report which the subcommittee submitted to the Executive Committee on September 27.

Q.—That was the meeting, was it not, Doctor, which we were discussing just before I brought to your attention the September 8 meeting in the shape of minutes? A.—That is the meeting the record of which I identified.

Mr. Leahy:

"A regular meeting of the Executive Committee of the District of Columbia Medical Society held Monday, Sept. 27, 1937.

"The chairman at this point called on Dr. H. C. Macatee, Chairman of a subcommittee, to consider the Group Health Association, Inc., for a report. The report was read, Dr. Macatee stating that there had been two meetings of the committee and that the committee recommended the following for presentation to the membership:"

By Mr. Leahy:

Q.—Doctor, before I read this, may I ask you what relation had this report, which was your report, to the report of September 8 which I just read? A.—It was to be a final report of the committee upon recommitting the whole matter to that subcommittee and was to supersede and supplant the preliminary report made on September 8.

Q.—Did it so supersede and supplant the earlier report? A.—It did.

Mr. Leahy:—This is the report:

"At a special meeting of the Medical Society of the District of Columbia held July 29, 1937 the membership was advised of all the facts that the Executive Committee had been able to gather respecting the purposes, proposed methods, and progress of the Corporation composed of employees of the Home Owners Loan Corporation now in process of organization, the object of which is to provide complete medical, surgical and hospital care for its members and their dependents upon a prepayment plan of financial support through membership dues. The professional services offered by the Corporation are to be supplied by a full time salaried staff of medical and other technical employees. The name of the organization is Group Health Association, Inc., of the Home Owners Loan Corporation.

"The Executive Committee recommended at the special meeting that the Society authorize further study of the subject by the Committee in order to enable it to report suitable recommendations to the Society looking to the formal adoption of an official attitude toward this proposed new type of medical practice.

"Such an expression of the Society's attitude is necessary for the guidance of our membership, both with respect to possible employment by the corporation and with respect to professional relationships to its medical and technical employees when and if it shall have begun to function.

"The Executive Committee finds: First, that employment by or professional relations with the Group Health Association, Incorporated, on the part of our members would be conditional upon approval of the organization by the Society as required by Chapter IX, Article III, Section 2, of the Constitution; that no application has been made by any member or by the organization itself for such approval; and that consequently there has been no submission of the data required for approval to the Compensation, Contract and Industrial Medicine Committee of the Society.

"The Committee finds: Second, that the conditions of rendering the medical and surgical service offered by Group Health Association, Incorporated, as set forth in such written promulgations of the organization the Committee has been able to see and as indicated verbally by officers of the corporation, appear to be inconsistent with the criteria for an acceptable form of contract practice as set forth in Chapter III, Article VI, Section 3, of the Principles of Medical Ethics of the American Medical Association, by which we are obliged to be guided. In particular it would appear that at least two of the criteria would necessarily be violated, viz.: '1. Where there is solicitation of patients, directly or indirectly'; and '5. When free choice of a physician is prevented.' In the first instance, it is obvious that the solicitation of employees of the H. O. L. C. to take membership in Group Health Association, Incorporated, is an effort to entice many away from medical relationships already formed to the medical personnel of the corporation. This effort would raise the question whether a further criterion of an acceptable contract is violated, viz.: '4. When there is interference with reasonable competition in a community.'

"However, the criteria above quoted must be applied in the light of experience, and we are required by the same Principles of Ethics to exercise prudence in forming opinions: 'Judgment should not be obscured by immediate, temporary or local results.' In any form or instance of contract practice 'The decision as to its ethical or unethical nature must be based on the ultimate effect for good or ill on the people as a whole.'

"The Executive Committee, therefore, recommends the adoption of the following:

"Resolved, That a final expression of the attitude of the Medical Society toward the acceptability of any cooperative medical service organization as an approved agency for the employment of members is manifestly impossible without the submission of all related data as a basis for approval, and manifestly undesirable when information is lacking as to whether any such group will ever become operative; and

"Resolved, That the membership be reminded of the requirements of Chapter IX, Article III, Section 2 of the Constitution for their guidance with respect to Group Health Association, Incorporated, of the H. O. L. C.; and

"Resolved, That the Medical Society recognizes a growing desire in Washington for some feasible plan of cooperative group medical service on a prepayment basis; that it recognizes the value of such an arrangement for many people of limited incomes; and that, having already provided a means in the Health Security Administration for the people without ready money to secure medical service on a postpayment plan, it is willing to collaborate with appropriate, responsible groups to devise methods for group prepaid medical service mutually acceptable to the two essential parties to such an agreement, viz.: the group needing and proposing to pay for the service and the group capable of furnishing it; and

"Resolved, That, if hereafter it shall appear necessary or desirable, the Board of Medical Supervisors of the District of Columbia be requested to determine, by judicial decision if necessary, whether the operation of Group Health Association, Incorporated, or any similar organization, is or will be in conformity with the Healing Arts Practice Act for the District of Columbia.

"Dr. Macatee, upon concluding reading, stated that THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION would publish in its issue of Oct. 2, 1937 a detailed analysis of the Group Health Association, Inc., pointing out weak points from a legal viewpoint. It began with the statement that Title 5, Chapter 5 of the District Code was taken advantage of, which had to do with the mutual welfare of individuals in organizations. It was clear that the Government was definitely embarking in the insurance business and that the check-off from the Government payroll would have all of the evil points that were included in check-off in the factories for union dues. The American Medical Association's statement would cover four or five pages in THE JOURNAL. It was emphasized that this material was not for release until September 29. Dr. Macatee stated that it was his view that despite this article appearing in THE JOURNAL, that there should be no hesitancy in adopting the report of the Subcommittee."

Mr. Leahy:—There was a great deal of discussion as you can see on many points. I am not going to read that.

By Mr. Leahy:

Q.—Doctor, was this report which you read finally adopted at the meeting? A.—It was adopted unanimously.

Q.—You mention in here, in your own report, Doctor, that having already provided a means "in the Health Security Administration": what was that? A.—That is the eleemosynary organization to which I referred the other day, with offices at 1823 L Street, which investigates applicants for medical charity and arranges for their hospitalization in clinics, and also provides a means by which they may pay their own way or budget out the expenses of their hospitalization after the services have been rendered.

Q.—Doctor, at the time you made this report to the Executive Committee on Sept. 27, 1937 what information, if any, Doctor, over and beyond what you already had a month previously with reference to G. H. A. had you? A.—Nothing that I remember.

Q.—What communication had you in any shape or form with any member of G. H. A.? A.—None whatsoever.

Q.—Or with any of its Board of Directors? A.—None at all.

Q.—Do you recall, Doctor, after the Executive Committee had adopted this report which you just rendered, had just rendered, on September 27, whether that report was ever presented at any meeting of the District Medical Society? A.—It was incorporated in a report of the Committee to the Society on its meeting on Oct. 6, 1937.

Q.—In between the special meeting of the District Medical Society on July 29, 1937, what other meeting of the District Medical Society, subsequent thereto, and prior to October 6, with relation to G. H. A., or anything connected with it, was held? A.—None.

Q.—I am now going to hand you a copy of the minutes of what purport to be a meeting held Oct. 6, 1937, and ask you if you can identify them. A.—Yes, this is a photostatic copy of the transaction for that time.

Mr. Leahy:

"Dr. Sprigg, continuing, stated that for the information of the membership he would report that the Executive Committee met four times during the summer for the purpose of studying questions of the organization which has been featured by the Home Owners Loan Corporation. He pointed out that officials of the American Medical Association lent their aid: Dr. W. C. Woodward, Director of the Bureau of Legal Medicine and Legislation, and Dr. R. G. Leland, Director of the Bureau of Medical Economics, discussed the matter before the subcommittee; and Dr. Olin West, Secretary, discussed the matter with certain members of the Society. All discussing this question were thoroughly opposed to the plan as presented in toto."

And the following resolutions are the results of these deliberations concerning Group Health Association, Inc. And then follows this same resolution which I have read to you. I am not going to take time to read it. Then, upon motion duly seconded, and adopted, the recommendations of the Executive Committee were considered *seriatim*.

"Dr. Thomas A. Groover was recognized. He stated that if there was no objection he would like to introduce a substitute for the foregoing resolutions. No objections were made. He presented the following:

"WHEREAS, The Bureau of Legal Medicine and Legislation of the American Medical Association has prepared and published a comprehensive report on the activities of Group Health Association, Incorporated; and

"WHEREAS, The Medical Society of the District of Columbia is in full accord with the content of said report, both as to the established facts set forth therein and the implications drawn therefrom; therefore, be it

"Resolved, That the Medical Society of the District of Columbia cause a copy of said report to be sent to each of its members as an indication of its future policies with respect to combating the activities of said Group Health Association and also with respect to the ethical responsibilities of the Medical Society of the District of Columbia and of its individual members.

"Dr. Groover moved the adoption of these substitute resolutions. Seconded by Dr. F. X. McGovern.

"In discussion of the subject, Dr. Groover stated he wished to briefly state some of his reasons for proposing these substitute resolutions. He said:

"I wish briefly to state some of my reasons for proposing these substitute resolutions.

"I have grave doubts if this Medical Society alone can do a great deal toward combating Group Health Association, Incorporated, and believe that the most effective assistance and support it can invoke is that of the American Medical Association.

"The A. M. A. has manifested a keen interest in this problem and in the October 2 issue of THE JOURNAL has caused to be published a comprehensive survey of it which I trust many of you have read carefully.

"If you have, you must have noted that there are three dominant notes that run through it—the first being that Group Health Association is illegal; the second, that Group Health Association is unethical; and third, that the operation of Group Health Association would be inimical to the best interests of the medical profession and the public.

"As to the illegality of Group Health Association I am not personally qualified to speak, but I happen to know that the A. M. A. has made a careful study of this aspect of the question and it is their opinion that it is illegal. It would seem out of place at this time for this Society to commit itself to any plan of procedure such as that recommended by the Executive Committee in the event that legal action against Group Health Association is undertaken later. Obviously any plan of procedure should be contingent upon the advice of counsel.

"As to the ethical responsibilities of the Medical Society of the District of Columbia and its members the conclusion to be drawn from the A. M. A. report is inescapable. It says: "Physicians who sell their services to an organization like Group Health Association for resale to patients are certain to lose professional status." In contrast to this clear-cut statement the statements in the Executive Committee report are equivocal and quibbling for which I can find no justifiable excuse. The members of this Society I believe have a right to expect a definite unequivocal expression from the Society as to their ethical responsibilities which is lacking in the Executive Committee report.

"Finally it is the collective opinion of organized medicine that prepayment plans for medical care except under very special conditions are inimical to the best interests of the medical profession and the public. The quasi endorsement of any prepayment plan for a community like Washington as contained in the Executive Committee report might well alienate the support of the A. M. A. and prove disastrous to its influence and leadership. For these and other reasons which I will not go into I believe that any such commitment by this Society might very well prove to be exceedingly embarrassing."

Then follow talks by many, many people for pages and pages, which I will not take up with you, and then they go into other matters for perhaps forty to fifty pages.

Mr. Kelleher:—You want the action of the Society.

Mr. Leahy:—I was just going to ask that.

By Mr. Leahy:

Q.—Doctor, what was the action of the Society with reference to the report which the Executive Committee made at the meeting of October 6, and the report which was offered as a substitute by Dr. Groover? *A.*—I wasn't present at that meeting. My information was that Dr. Groover's substitute resolution was adopted.

Q.—And following that, what became of the subcommittee which had been appointed in the early part of the summer and of which you were chairman? *A.*—Its duties having been completed, it ceased to exist.

Q.—Up to Oct. 6, 1937 had the District Medical Society taken any other action than is indicated in the minutes which I have just brought to your attention? *A.*—None whatsoever.

Q.—Up to the meeting of Oct. 6, 1937 what expression of an attitude of the Society had ever been adopted? *A.*—On June 1 the Executive Committee authorized the appointment of a subcommittee to find out facts; on June 24 a meeting with the officers of Group Health Association was held at the Medical Society building to elicit facts; on July 26 a further meeting was had with the Board of Trustees of Group Health Association for further conference in the hope of reaching some accord with them. On July 29 all the facts obtained were submitted to the Medical Society at a special meeting, and the only action taken was the appointment of another committee to formulate a policy for the Society to adopt officially; on October 6 the Medical Society did adopt a policy as contained in the resolution presented by Dr. Groover. Those were the only actions taken by the Medical Society between those dates.

Mr. Leahy:—I should like to draw the attention of the jury to one statement which is made on page 4 of the minutes of the meeting of October 6, wherein after Dr. R. Arthur Hooe had been recognized he said:

"He referred to the constitution of the Society, as mentioned in Dr. Macatee's resolution, stating that there is a provision therein which makes it utterly impossible for a member of this society to engage with any corporation, group or individual without first submitting its verbal or written contract to the Compensation, Contract and Industrial Medicine Committee. He said when this fact was disclosed to the Group Health Association officials, their verbal reply was 'if that makes it impossible, if it is in violation of the ethics of the American Medical Association and your ethics, then why don't you and the American Medical Association change your ethics.'"

"Dr. Hooe said the reply naturally was: 'Because you haven't sufficiently convinced us that we should change them with any good reason.'"

Mr. Leahy:—And then there was a long speech by Dr. Horvath, with which Dr. Hooe said he was in accord.

By Mr. Leahy:

Q.—Now, Doctor, do you recall whether following the meeting of October 6, and the adoption of this particular report of Dr. Groover, anything further was done in reference to Group Health Association during that month of October 1937? *A.*—I know of nothing, sir.

Q.—I am going to show you the meeting of Oct. 11, 1937 of the Executive Committee, sitting in a special meeting, and ask you whether anything appears therein as to what the Executive Committee recommended for further action. *A.*—Yes, that exhibit which you place before me is a record of that special meeting of the Executive Committee.

Q.—Do you know independently: have you any independent recollection now as to whether you attended that meeting or not? *A.*—I just referred to the list of those attending and I find myself listed.

Q.—Have you any independent recollection now, aside from the abstract as recorded there as to what occurred at the meeting? *A.*—No, sir.

Mr. Leahy:—This is March 11, 1937 special meeting of the Executive Committee of the Medical Society:

"The recommendation was finally adopted that the American Medical Association authorities be communicated with and they be asked to send to the Insurance Commissioners, the Commission on Licensure, the District of Columbia Commissioners, the United States District Attorney for the District of Columbia, and the Corporation Counsel, substances of the article that appeared in the Oct. 2, 1937 issue of THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION (ORGANIZATION SECTION, p. 39B), and that if the American Medical Association refused or would not comply, then the Secretary send a reprint of said article to each of these officials."

By Mr. Leahy:

Q.—Do you recall whether any further action was taken by either the Executive Committee or the Society with reference to determining the question involved in the recommendation just read? *A.*—How does your question go?

Q.—Do you recall anything further was done in pursuance of the recommendation which Dr. John A. Reed, at this point, as stated in the minutes, was requesting: "He stated that in his opinion the American Medical Association should follow through and duly notify the District Attorney, Corporation Counsel, and other legal officials of the apparent violation of law of Group Health Association, Inc., would violate when and if they start to operate"? *A.*—I recollect no further action.

Q.—I am going to show you now the special meeting of the District Medical Society proceedings as reported in its minutes of Oct. 15, 1937 and I will ask you if there was any action taken at that particular meeting with reference to anything concerning G. H. A.

Mr. Lewin:—Was this witness present?

By Mr. Leahy:

Q.—Were you in the meeting? "Other members to the number of about a hundred and fifty-five." *A.*—My impression is that I was not at that meeting.

Q.—At this particular meeting, according to the minutes which I am not going to read—because they deal with so many other matters, and so many doctors spoke—Dr. Wall, Dr. Sprigg, Dr. Jansen, Dr. Conklin, Dr. Hooe, Dr. Jacobs, Dr. Kirby, Dr. Holden, Dr. Hagner, Dr. Riddick, Dr. Davis, Dr. Sager, Dr. Chase, Dr. Christie, Dr. McLean, Dr. Parker, Dr. Alfaro, Dr. Templeton, Dr. Hooe, Dr. Groover—until we come down to the seventh page of the minutes:

"Dr. W. M. Sprigg asked consent to read a letter addressed to the Boards of Directors of the various hospitals in the city. Consent was granted."

That letter is dated October 15. He read the letter. He called attention to Chapter IX, Article 4, Section 1. The result of the action as to sending the letter was that the matter was held over, as I recall.

Mr. Lewin:—Mr. Leahy, didn't he also refer to Section 5?

Mr. Leahy:—Did he?

Mr. Lewin:—Didn't he start out with Section 5 and quote it?

Mr. Leahy:

"The Medical Society of the District of Columbia desires to call your attention to Chapter IX, Article IV, Section 5 of the Constitution, as follows,"

quoting it; and that matter was held over for further discussion. This was at the meeting of Oct. 15, 1937.

By Mr. Leahy:

Q.—Doctor, have you any independent recollection now as to this letter which has just been brought to the jurors' attention? *A.*—None.

Q.—Do you recall whether you were present at the meeting of November 3 of the District Medical Society? *A.*—May I see the photostat?

Q.—Yes. It says "Other members present about one hundred and sixty." *A.*—I think I was not present at that meeting.

Mr. Leahy:—This is November 3. There are many things in here which have no relation whatsoever to the matter at hand. On the bottom of page 2, however, Dr. Sprigg, the chairman of the Executive Committee, was recognized. He presented the following recommendation from the Executive Committee, which is the one I just drew your attention to, to the effect that the American Medical Association authorities be communicated with and asked to send to the various public officials of the District of Columbia substances of the article which appeared in the Oct. 2, 1937 issue of THE JOURNAL. Dr. Sprigg made the motion that the recommendation as read be adopted. No. 1 I have just brought to your attention. Second, Dr. William J. Stanton was then recognized and he offered a substitute for the recommendation of the Executive Committee. Now, that is a long resolution and inasmuch as it was not adopted I will not take your time to read it.

Motion was made that the foregoing resolution be adopted, and it was seconded. Then there follows a long discussion between Dr. Stanton, Dr. Sprigg, Dr. Smith—

Mr. Lewin (interposing):—Excuse me. I would like to object to the reading of these minutes at this time. The witness has testified he was not present, so I do not see how it could form a basis for any examination of this witness.

Mr. Leahy:—I haven't asked the witness any questions about it.

THE COURT:—He may read from the minutes at any time.

Mr. Leahy:—Then, Dr. Sprigg offered a resolution:

"Resolved, That the Executive Committee of the Medical Society of the District of Columbia is hereby authorized and directed to take such steps as may be necessary, first, through the American Medical Association and if that fails, second, through its own initiative to inaugurate a program of information through the state medical associations and other sources of the dangers of lowering the standards of medical care to be given government employees in the Home Owners Loan Corporation organization and other government agencies as found in the rules of the Group Health Association, Inc., and many other reasons why it is contrary to sound public policy."

Then follows another discussion between Dr. Sprigg, Dr. Stanton, Dr. Prentiss Willson, Dr. Hooe, Dr. Caulfield, Dr. McLeod, Dr. Wilkinson, Dr. Sager, Dr. Christie, Dr. Ruffin, Dr. Stanton again, and Dr. Willson's motion was finally adopted. That motion was that a committee should be appointed to retire to draw up a resolution. The committee appointed was Dr. Stanton, Dr. Ruffin and Dr. McGovern.

"Later in the evening Dr. Stanton made the following report of the committees's deliberations, presenting the resolutions:

"That the President of the Medical Society of the District of Columbia appoint a committee of two members to go to Chicago as promptly as practicable and lay before the proper officials of the American Medical Association the views of this Society with regard to the activities of Group Health Association, Incorporated, including:

"1. That inasmuch as the movement threatens to be nationwide in its scope and affects every component organization of the American Medical Association, it is the duty of the American Medical Association to oppose immediately with all its might this entering and possibly illegal wedge to the socialization of medicine.

"2. That in view of the tremendous import of the Group Health Association movement to the membership of the Medical Society of the District of Columbia and also to the profession at large and to the public, it is the opinion of the Medical Society of the District of Columbia that it is the duty of the American Medical Association to combat vigorously Group Health Association, Incorporated.

"3. That the Medical Society of the District of Columbia waives any question of regional interference by the American Medical Association.

"4. That the American Medical Association give a definite and immediate expression of its intended action in this matter.

"Upon motion, duly seconded, the foregoing resolutions submitted by the special committee were adopted."

By Mr. Leahy:

Q.—Doctor, do you recall whether there was any other action taken to your knowledge by the District Medical Society other than this which authorized the going to Chicago of Drs. McGovern and Hooe to see the American Medical Association?

Mr. Kelleher:—He was not at the meeting: let's get what the minutes show followed.

Mr. Leahy:—I am not talking about anything else at this point.

The Witness:—None.

Mr. Leahy. Now, at that same meeting of Nov. 3, 1937 there was another resolution adopted which I wish to draw the attention of the jury to. Oh, there were many offered; much talk—until we come down to the twelfth page.

"Dr. Prentiss Willson would inquire if the foregoing was in lieu of the recommendation concerning the sending of a letter to the Board of Directors and medical staffs of the local hospitals, as published through the membership on the agenda."

That is the Dr. Sprigg letter I called attention to at the earlier meeting.

"He said he intended to move a substitute motion for the letter which appeared on the agenda. If the Society approved the motion proposed by Dr. Sprigg it would be inexpedient to send the letter out at the present time. He was of the opinion that the Hospital Committee, composed of members of the Society serving on hospital staffs in Washington would be a more suitable committee to handle the matter. He offered the following substitute:

"WHEREAS, The Medical Society of the District of Columbia has an apparent means of hindering the successful operation of Group Health Association, Inc., if it can prevent patients of physicians in its employ being received in the local private hospitals; and

"WHEREAS, The Medical Society of the District of Columbia has no direct control over the policies of such hospitals as determined by their lay boards of directors, except through its control of its own members serving on their medical staffs, and

"WHEREAS, Conflicts between the Medical Society of the District of Columbia and any local hospitals arising from an attempt to enforce the provisions of Chapter IX, Article IV, Section 5, of its Constitution should be assiduously avoided, if possible, because of the unfavorable publicity that would accrue to its own members; therefore, be it

"Resolved, That the Hospital Committee be, and is hereby, directed to give careful study and consideration to all phases of this subject and report back to the Society, at the earliest practicable date, its recommendations as to the best way of bringing this question to the attention of the medical boards and boards of directors of the various local hospitals in such a manner as to insure the maximum amount of practical accomplishment with the minimum amount of friction and conflict."

Mr. Leahy:—This is afterward adopted; the minutes show it was adopted, and the matter referred to the Hospital Committee.

By Mr. Leahy:

Q.—Doctor, did you have any membership on the Hospital Committee whatever? *A*.—No, sir.

Q.—The Sprigg letter which this resolution was presented in order to supplant, do you recall whether that was ever sent? *A*.—I know, but I do not know how; I know it was not sent.

Q.—Do you know it was not sent; I thought perhaps you had read these minutes? *A*.—I have read the minutes over and the Willson resolution stopped it.

Q.—Do you recall or have you any knowledge yourself personally whether this Willson resolution did go to the Hospital Committee? *A*.—I have no personal knowledge of that.

Q.—Have you any personal knowledge as to whether any action of any kind was ever taken on the Willson resolution? *A*.—Only from reading of the minutes that the Willson resolution was adopted, and the Sprigg letter was not sent.

By Mr. Leahy:

Q.—Doctor, as read, the resolution proposed by Dr. Prentiss Willson stated:

"WHEREAS, The Medical Society of the District of Columbia has no direct control over the policies of such hospitals as determined by their lay board of directors, except through its control of its own members serving on their medical staff:"

May I ask you, Doctor, how long have you been connected with the hospitals in the District of Columbia? *A*.—Through-out my full medical career.

Q.—Over how many years does that extend? *A*.—Forty-one.

Q.—As a matter of fact what control has the Medical Society over the hospitals of the District of Columbia?

Mr. Lewin:—Objected to as calling for a conclusion.

THE COURT:—Well, he may state whether or not there is any understanding or agreement between them which gives the Society that control: Is that what you mean?

The witness referred to incidents which had occurred in 1905, 1920 and 1922.

By Mr. Leahy:

Q.—And following those incidents do you recall that the Medical Society itself or through any of its committees ever tried to control the hospitals?

Mr. Lewin:—Objected to as calling for a conclusion.

Mr. Leahy:—That is not asking for a conclusion. I am asking whether through any contract, understanding or agreement the Medical Society ever pretended to control the District of Columbia Hospitals.

THE COURT:—He may answer that.

The Witness:—None whatever, because—

Mr. Lewin:—Objected to. It has been answered.

THE COURT:—Yes, I think that is sufficient.

By Mr. Leahy:

Q.—What was the attitude or the knowledge of the District Medical Society with reference to its ability to control hospitals in the District of Columbia?

Mr. Lewin:—That is objected to.

THE COURT:—Through his own experience?

Mr. Leahy:—Yes.

The Witness:—Will you read the question?

By Mr. Leahy:

Q.—What knowledge had the District of Columbia Medical Society, through its own experience, as to its ability to control hospitals in the District of Columbia?

Mr. Lewin:—Objected to.

THE COURT:—I think that would call for an exposition of these incidents and occasions.

Mr. Leahy:—Yes, but if they learned from those occasions of their ability or inability: that is what I am asking him.

THE COURT:—They are rather remote.

Mr. Leahy:—But if they affected the conduct of the District Medical Society down through the years.

THE COURT:—He said 1922.

Mr. Leahy:—Yes, and he said they have never tried since then.

THE COURT:—I wouldn't want the situation to develop where we would have to try out those experiences.

Mr. Leahy:—Oh, no, your Honor, I wouldn't either.

THE COURT:—He has stated that the Society had these experiences at that time and to his knowledge it has not since

attempted to exercise control over the hospitals. It seems to me that is about as far as we can go without going into the matter which would open up the details of the specific incidents.

By Mr. Leahy:

Q.—Have you any knowledge now of any acts done by the District Medical Society in any attempt to control the policies of any hospital in the District of Columbia, other than what is disclosed in the minutes of the meetings of the District Society, as read?

Mr. Lewin:—Objected to as leading, and calling for a conclusion.

Mr. Leahy:—No, I am not calling for any conclusion; I am asking if they didn't disclose every action that was taken by the Society, so far as his knowledge goes.

THE COURT:—He may answer that.

The Witness:—Nothing was done by the Medical Society other than as disclosed by the minutes.

By Mr. Leahy:

Q.—Do you recall whether at any time any action was taken by the District Medical Society in any way, shape or manner to prevent patients of physicians in its employ—re-referring to Group Health Association—being received in local private hospitals?

Mr. Lewin:—Objected to; the minutes speak for themselves.

THE COURT:—You mean any formal action, or any action other than is disclosed in the minutes?

Mr. Leahy:—Yes.

Mr. Lewin:—I think he has already testified to that.

THE COURT:—He may answer that generally.

The Witness:—The Medical Society never on any occasion undertook to do anything to interfere with the reception by the local hospitals of patients arising from the G. H. A. group.

By Mr. Leahy:

Q.—Now, I think you stated earlier that in your own experience you have been connected for some years with Garfield Hospital? *A.*—Yes.

Q.—I have forgotten just how long: will you refresh our memories on that? *A.*—I was an intern there between 1900 and 1901; I was a frequent attendant on private patients for years thereafter; and then I became an attending physician at Garfield. I am now a member of the Board of Directors and President of the Medical Staff.

Q.—Doctor, does Garfield Hospital have a rule that only those who have been given privileges can exercise and practice their profession within the hospital? *A.*—It does.

Q.—Do you recall how long that rule has been in effect? *A.*—Ever since I have been connected with it in a staff capacity.

Q.—Do you recall whether that same rule is in effect within the other private hospitals in the District of Columbia?

Mr. Lewin:—Objected to.

THE COURT:—So far as he knows from experience he may answer.

The Witness:—That is true, because I am admitted to courtesy privileges in the other hospitals annually.

By Mr. Leahy:

Q.—In the exercise of its judgment as to those who shall enjoy courtesy staff privileges at Garfield, on what does the judgment of the hospital depend as to whether the privileges shall be extended or not?

Mr. Lewin:—Objected to as calling for a conclusion, and because the minutes of the hospital are the best evidence.

THE COURT:—You say you are a member of the Board of Directors, and President of the Medical Staff?

The Witness:—I am.

THE COURT:—I think he may outline the general considerations that apply as to the policy of the hospital.

The Witness:—There is required a formal application by any physician who desires courtesy privileges. The formal application must state the physician's name, his address, the place and scope of his education, his postgraduate training, his special aptitude. It must contain the names of those who know personally of his professional attainments in the way of endorsers. Upon receipt by the superintendent of the hospital of that it is referred to that section of the medical staff involved in the type of practice in which he desires courtesy privileges. For instance, if he desires privileges in general surgery, the application is referred to the attending surgical staff. Upon their opinion is based the answer whether or not they endorse the application. It is a rule that their endorsement must appear. All of the members of the attending staff must endorse the application. It then comes to the advisory committee, of which I am chairman; whereupon these facts are

considered; where it is determined whether further endorsements might be necessary or desirable and, after all the information has been obtained the advisory committee recommends to the Board of Directors the appointment to the courtesy staff of this applicant, or not; whereupon the Board of Directors takes its own independent action with regard thereto.

By Mr. Leahy:

Q.—Ultimately then the appointment to professional privileges depends upon the Board of Directors? *A.*—Entirely.

Q.—Doctor, in the determination as to the right to courtesy privileges, what, if anything, does membership in a local medical society mean as affecting the question of his right to membership on the courtesy staff? *A.*—That depends on the regulations, as adopted by the individual hospitals concerned.

Q.—With reference to Garfield, what effect has membership in the local society upon the qualification or right to become a member of the courtesy staff?

Mr. Lewin:—Will you fix the time?

By Mr. Leahy:

Q.—From January 1937 to Dec. 20, 1938.

A.—During that time there has been no change in the policy of the hospital, but the fact that the applicant is a member of the medical society stands as a substantial bit of evidence with regard to his acceptability, but his nonmembership is not a bar in Garfield Hospital.

Q.—And as a matter of fact are there others than those who are members of the local medical society on the staff, and were there at that time? *A.*—Yes, there were.

By Mr. Leahy:

Q.—Do you recall whether, while you were at Garfield Hospital, Dr. Raymond E. Selders made any application for privileges at the hospital? *A.*—I do.

Q.—Do you recall when it was that he made application for privileges? *A.*—My recollection is it was shortly after Group Health Association came into operation, which was fixed about November or December 1937.

Q.—And will you kindly tell us what route that application took in so far as Dr. Selders was concerned, and whether it took any route different from any application by any other doctor? *A.*—None whatever.

Q.—What was finally done with Dr. Selders' application? *A.*—He was given temporary privileges under the rule that an applicant would be given temporary privileges pending action on his application, and his application finally was denied by the Board of Directors.

Q.—Over what period of time does this rule permit temporary privileges to be exercised? *A.*—Until the meetings necessary to go into the application and pass on it are held.

Q.—In granting Dr. Selders privileges during the period while his application was under consideration at Garfield Hospital, were you or were you not following the general rule as applied to all applicants? *A.*—We were.

Q.—Do you recall now when it was that the Board met finally to determine whether privileges should be granted to Dr. Selders? *A.*—I think it was in the spring of 1938.

Q.—Have you any recollection now as to about what time in the spring that occurred? *A.*—Yes.

Q.—When was it? *A.*—According to the best recollection I have it was in March 1938.

Mr. Lewin:—The records are already in evidence, showing when that was. May they be referred to? January 25 is when the temporary privileges were withdrawn.

Mr. Leahy:—I know that. I am talking about March. I want particularly that interoffice communication—run-of-the-mill case.

By Mr. Leahy:

Q.—Doctor, there came a time when the temporary privileges of Dr. Selders were withdrawn? *A.*—Yes.

Q.—You have heard the day just fixed. I think you will remember it, Jan. 25, 1938. *A.*—Yes.

Q.—Do you recall the occasion for the withdrawal of those privileges? *A.*—I know that there was a report from the surgical staff.

Mr. Lewin:—Objected to: you were simply asked whether you recalled it, Doctor.

The Witness:—I don't recall it in detail.

By Mr. Leahy:

Q.—Do you recall generally the occasion for the withdrawal, without stating the contents of any report, or anything of that kind? *A.*—It must have been on official action about Jan. 25, 1938.

Q.—In connection with the application of Dr. Selders at Garfield, do you recall an interoffice communication from Dr. Eisenman of Dec. 3, 1938 in which attention is called, I think, to the medical staff. Well, we will get it in a minute, so we will be sure about it. I show you a copy of it. It is dated Dec. 3, 1937. I will ask you whether or not that particular interoffice communication came for consideration of the committee of the staff of which you are a member. A.—The letter has come to my attention since that date. I know nothing of its origin.

Q.—And you never saw it or about the time it was written? A.—I did not.

Q.—I now show you a letter dated March 28, 1938, I believe it has been introduced in evidence. It is 487, and ask you if you recall the letter or the facts contained therein? A.—That letter set forth—

Mr. Lewin:—Objected to as not responsive.

By Mr. Leahy:

Q.—Do you recall the contents of the letter? A.—No.

Q.—Do you recall whether any action was taken at or about the date of March 28, 1938? A.—Yes. Action was taken by the board of directors at a meeting at which I was present.

Q.—I will ask you whether or not the letter correctly sets forth what that action was? A.—That sets forth accurately the action taken.

Q.—Who was on the medical staff on Dec. 28, 1937, Doctor? Do you recall?

THE COURT:—That was a pretty large staff, was it not?

By Mr. Leahy:

Q.—Was that a large staff? A.—A very large staff; yes.

Q.—Were you present at the meeting of December 28, at the executive meeting of the staff, when the action which is set forth was taken? A.—This was a meeting of the Executive Committee of the board of directors, and my recollection is that I was present.

Q.—Is it your recollection now that that truly reflects the action of the Executive Committee? A.—It does.

Q.—And also that so much as is quoted truly reflects the official action of the board of directors on March 22, 1938? A.—It does.

Mr. Leahy:—The letter is U. S. Exhibit 487, dated Dec. 28, 1937 from Dr. Eisenman, Superintendent, to Mr. Aspinwall, and it says:

"That pending the settlement of the question as to the ethical status of Group Health Association, Inc., and pending further study of the professional qualifications of Dr. Raymond E. Selders that he be not accorded courtesy privileges at Garfield Memorial Hospital except, of course, in a real emergency."

That is the meeting of the board of directors of March 22, 1938:

"The president, in reviewing the proceedings, stated:

"Our final connection with Group Health Association was the application of Dr. Selders for surgical privileges. The temporary privilege awaiting action on the application and the withdrawal of these privileges on recommendation of the Medical Staff as noted in the resolution of the Executive Committee meeting on Dec. 28, 1937 awaiting legality of Group Health Association. The actual disqualification of Dr. Selders' application was by the board of directors at meeting on Jan. 25, 1938, in which the minutes of the Executive Committee meeting of Dec. 28, 1937 were read.

"In approving these minutes the board desires to state that in denying privileges to the courtesy staff of the hospital to Dr. Raymond E. Selders on the recommendation of the Medical Staff of the Hospital the action was pending the legality of the organization who employed Dr. Selders."

By Mr. Leahy:

Q.—Could you tell us about how many are on the Medical Staff at Garfield Hospital? A.—That question is difficult to answer, because the staff is divided up into different categories.

Q.—Can you approximate the number? A.—I do not know whether you are referring to the Medical Staff in general or the particular part of it which had to do with recommendations in the case of Dr. Selders.

Q.—How many would compose that part of the Medical Staff who had to do with the application of Dr. Selders? A.—Four.

Q.—Who were they? A.—Dr. H. H. Kerr, Dr. Charles S. White, Dr. F. X. McGovern and, I think at that time Dr. Howard F. Strine.

Q.—Following the application in the fall of 1937 do you recall a renewed application made some time in July of 1938, following Mr. Justice Bailey's decision, for privileges of Dr. Selders at the hospital? A.—I have no independent recollection of that, sir.

Q.—I am going to show you now, Doctor, what was identified this morning as Defendants' Exhibit for identification No. 42. I want you to see that letter and ask you if that had come to

your attention as a member of the Executive Staff? A.—That came to my attention as a member of the Board of Directors.

Q.—As a member of the Board of Directors of the hospital? A.—That letter did come to my attention in that way.

Q.—Do you recall whether or not Dr. Selders was ever accorded privileges at Garfield Hospital? A.—Only temporary privileges until his application was denied officially.

Q.—What effect, if any at all, did this letter which I have just submitted to you for your perusal have upon the board of directors' determination with reference to whether he was qualified for privileges or not?

Mr. Lewin:—Objected to, because the date of the letter is after the action of the board, as just testified.

THE COURT:—Let me see that letter, please.

(The letter referred to was handed to the court.)

Mr. Lewin:—When the letter is offered I will have other objections.

THE COURT:—Come to the bench, please.

(Counsel for both sides approached the bench and conferred with the court in a low tone of voice.)

(The discussion concerned the admissibility of the Castle letter and the Court ruled it admissible.)

Mr. Leahy:—Will you kindly read the question, Mr. Reporter? (The pending question was read by the reporter as follows:)

"Q.—What effect, if any at all, did this letter which I have just submitted to you for your perusal have upon the board of directors' determination with reference to whether he was qualified for privileges or not?"

The Witness:—It had a definitely adverse effect.

Q.—Is the W. R. Castle whose name appears on the top of this letterhead the same William R. Castle whose name appears in Government Exhibit 481 as a member of the board of directors? A.—Yes, sir.

Q.—Of Garfield Hospital? A.—Of Garfield Memorial Hospital.

Q.—Do you recall whether the board of directors had taken any action by way of requesting Mr. Castle to get this information? A.—My recollection is that it was an independent action on his part.

DEFENDANTS' EXHIBIT 42

Mr. Leahy:—This is on the stationery of W. R. Castle. It is dated March 30, 1938, and addressed to Dr. Francis J. Eisenman, Garfield Hospital:

"My Dear Dr. Eisenman:

"I wrote as I told you I would to Mr. Aldus Higgins in Worcester. He is the president of the Norton Company, is connected with various hospitals, and is, I believe, head of the Worcester Museum. Mr. Higgins is a very careful individual who would not write anything which he had not checked on pretty carefully. This is what he said:

"Dr. Selders was a surgical resident at Worcester City Hospital for one year, two years ago, at a salary of \$900 and keep. We understood that he had graduated from a medical school in Oklahoma, had been in practice about seven years, and part of the time in Houston, Texas, where he had a hospital staff appointment. He then came to Pennsylvania State Medical School to their P. G. course which requires one year at the school and one year of practical experience as a resident. His year at the hospital was a part of this procedure. His work at the City Hospital did not meet with the approval of the Superintendent as to the way he handled himself with interns, nor the approval of the surgical staff as to his accomplishments as a surgeon. The appointment accordingly was not continued after the first year.

"Our superintendent has a letter from one who claims to be his sister living in the South with the statement that she made sacrifices to educate Dr. Selders and that recently when she had turned to him for aid in her financial circumstances he had informed her that he did not care to hear from her again."

"Mr. Higgins adds that it is quite possible he may be able to get some more detailed information by consulting the doctors who knew him. He says, however, that it seems as though the above, for the accuracy of which he vouches, would be bad enough to dispose of him both as a surgeon and a man.

"If you would like me, however, to write Mr. Higgins and ask him to make further inquiries, I shall of course be glad to do so. We ought to realize, however, that if that is done and Mr. Higgins consults various people, the inquiries are likely to be known.

"Very sincerely,

"William R. Castle."

There was extended discussion on an action taken by the hospital following the Tew case.

Q.—What did you do with reference to the paper which you have just seen here? A.—I prepared it and presented it to the staff.

DEFENDANTS' EXHIBIT 43

Mr. Leahy:

"Regulation governing admission of patients to Garfield Memorial Hospital upon the application of physicians and surgeons not members of the courtesy staff.

"The word 'emergency' is defined for the purpose of the use of the facilities of the hospital by physicians and surgeons not admitted to the courtesy staff of the hospital as some condition in which the life or safety of the patient is in danger except for some immediate intervention by the physician involved in the way of first aid, as in the case of hemorrhage, asphyxiation, or the like. In cases in which there is time for the formal posting of an operation the hospital holds that there is also time to secure the services of a surgeon who had been granted surgical privileges at the hospital, and that course of action will hereafter be required upon application for the admission of any patient by a physician or surgeon not of the courtesy staff.

"Under the conditions stipulated members of Group Health Association will be admitted to the hospital just as any other person is admitted, subject to available space and the suitability of the patient in other respects.

"Unanimously adopted by the Executive Staff at a special meeting held March 25, 1938."

It is signed "H. C. Macatee, M. D., President, Medical Staff," and it says that the original was sent to Mr. Aspinwall on the 25th day of March 1938.

By Mr. Leahy:

Q.—Who is Mr. Aspinwall? A.—President of the Board of Directors.

Q.—What was the occasion of your defining the word "emergency" in the manner in which I have just read? A.—The occasion was the admission to the hospital of a G. H. A. patient named Miss Tew, upon the statement of Dr. Selders that it was an emergency case. The staff of the hospital took the position that it was not an emergency case; and it was to make the position of the hospital officially known to all concerned in such cases, so that no question would arise thereafter, that this resolution was devised and adopted.

Q.—Under the rule of Garfield Hospital could one who did not enjoy courtesy privileges treat an emergency case, notwithstanding, in that hospital? A.—Certainly.

Q.—And then it was to define and make clear what such an emergency case was that this was made known? A.—Exactly.

Q.—And under the definition as just outlined, following that was Dr. Selders still qualified to treat an emergency case at Garfield Hospital? A.—If it was an emergency under the stipulation.

Q.—Do you recall whether, after Justice Bailey's decision, Garfield Hospital received any applications for courtesy privileges by any of the G. H. A. staff members? A.—I do.

Q.—Do you recall how many, now, did so apply? A.—I recall two applications which were considered in December 1938.

Q.—Do you recall how promptly consideration was given to those applications after their receipt by the hospital?

Mr. Lewin:—Objected to. I think there must be records that show this.

THE COURT:—There may be records, but that does not preclude the circumstances being shown by him. I think if it were a matter in which you were attempting to impose a contractual obligation upon the hospital the records would be the best evidence, but I think that for ordinary evidential purposes the testimony of anybody who knows it is sufficient.

Mr. Lewin:—Yes, but how about a conclusion, your Honor, such as has been asked for here?

THE COURT:—I did not understand that it was asking for a conclusion.

Mr. Lewin:—I think he should have asked the witness when he received the applications and when they were passed on.

THE COURT:—What was the question?
(The reporter read as follows:)

Q.—Do you recall how promptly consideration was given to those applications after their receipt by the hospital?"

THE COURT:—I think he may state how long it took them to act upon them.

A.—There was no delay beyond that necessary for the orderly process by which such applications were received and acted upon.

By Mr. Leahy:

Q.—What was the result? A.—Those two applicants were admitted to courtesy privileges.

Mr. Lewin:—Will you fix the date?

Mr. Leahy:—I think he said in December 1937.

The Witness:—That is as near as my recollection will serve me.

By Mr. Leahy:

Q.—There is one other question that I forgot to ask you with reference to Dr. Selders' application, Doctor. Where applications come in for general surgical privileges on the courtesy staff of Garfield Hospital, does Garfield Hospital avail itself of the facilities of any other body with reference to an investigation which has to be made into the qualifications of the applicant? A.—It does.

Q.—What other body does Garfield Hospital usually engage in such matters? A.—The Washington Academy of Surgery.

Q.—How long has Garfield been doing that? A.—Ever since I have been on the Advisory Committee of the hospital.

Q.—And, once again, will you tell us how long that has been? A.—Certainly about ten years.

Q.—Do you recall now whether Garfield Hospital referred the investigation into the qualifications of Dr. Selders to the Academy of Surgery? A.—It did.

Q.—In doing so were they acting differently with reference to Dr. Selders from any other doctor who made application for such privileges? A.—Their action was entirely in accord with the usual practice.

MARCH 24—AFTER RECESS

TESTIMONY OF HENRY C. MACATEE

DIRECT EXAMINATION (RESUMED)

By Mr. Leahy:

Mr. Leahy:—U. S. Exhibit 450, which has been offered in evidence before, is dated January 31, 1938. It is directed to the superintendent of Garfield Memorial Hospital, Washington, D. C.:

"Dear Sir:

"The Committee on Hospital Privileges recommends the disapproval of the applications of the following men to do surgery in Garfield Memorial Hospital:"

And then follow one, two, three, four, five, six names. The last one is Dr. Selders'. Then it recommends the approval of about 45 others on that page and, continuing on the "approved list," some eight or ten; minor surgery; then follows orthopedic surgery and urologic surgery.

"I am returning the applications to practice at Garfield Hospital in other branches of medicine and surgery which the Committee feels it is impossible to pass on.

"F. C. Fishback,

"Secretary,

"Washington Academy of Surgery."

By Mr. Leahy:

Q.—Doctor, can you, by glancing down the list of the six doctors whose applications for hospital privileges were recommended to be disapproved, tell us whether any members of those were members of the District Medical Society? A.—I think four of them are.

Mr. Lewin:—Objected to. Objected to. We don't want his thoughts about it, I don't believe.

By Mr. Leahy:

Q.—Well, I mean if you know? A.—To the best of my knowledge four of them are.

TESTIMONY OF WALTER ESTELL LEE

DIRECT EXAMINATION

By Mr. Leahy:

Walter Estell Lee said that he resides in Philadelphia. He is connected with the Graduate School of the University of Pennsylvania as Professor of surgery since 1920. He was a graduate of the University of Pennsylvania in 1902. After graduation he trained at the Pennsylvania Hospital and was there for six years before leaving. He identified his signature on a letter to Dr. Frederick Sanderson at Washington. He identified also letters to Dr. George A. MacIver, Superintendent, Worcester City Hospital, Worcester, Massachusetts; Miss Edna H. Treasure, Superintendent, National Homeopathic Hospital, Washington, D. C. and to Dr. Lewis Taylor, Sibley Memorial Hospital, Washington, D. C.

CROSS EXAMINATION

By Mr. Lewin:

Q.—Dr. Lee, who was the dean of the Graduate School of Medicine of the University of Pennsylvania in the year 1937 and the year 1938? A.—Dr. George H. Meeker.

Q.—Do you know whether he would have knowledge of the qualifications of students in that school?

Mr. Leahy:—I object. It would be outside the direct.

Mr. Lewin:—I think he testified as to his position with the—

THE COURT:—It goes beyond the direct examination. Objection sustained.

Then after considerable argument between attorneys he identified some other signatures.

TESTIMONY OF HENRY C. MACATEE

FURTHER DIRECT EXAMINATION

By Mr. Leahy:

Q.—Doctor, I want to hand you a booklet here and ask you if you can identify that, please. A.—Yes, sir. It belongs to me.

Q.—And what is it? A.—It is the final report of the Committee on Costs of Medical Care, including a majority report and several minority reports.

Q.—And is there a minority report in there which perhaps we could identify by saying it is the larger of the minority reports submitted? A.—It is called, I think, the principal minority report in the book.

Q.—It has been introduced here in evidence, Doctor, that the American Medical Association approved the minority report of that committee on the cost of medical care. Do you recall now or can you identify which of the minority reports therein the American Medical Association adopted? A.—The American Medical Association approved as its own policy the minority report No. 1 as contained in this book.

Q.—Do you recall who moved the motion for the adoption? A.—I did.

Mr. Leahy:—I just wish to read to the jury the recommendations of the principal minority group.

Mr. Kelleher:—I object. Excuse me, Mr. Leahy. I didn't know you were offering that.

Mr. Leahy:—Yes.

Mr. Kelleher:—We object to offering just the minority report without offering the entire report of the Committee.

Mr. Leahy:—All right; I will let it all go in, the whole book.

Mr. Kelleher:—All right.

Mr. Leahy:—Tickled pink.

THE COURT:—Just a minute.

Mr. Leahy:—(Reading:) "Recommendations of the Principal Minority Group."

THE COURT:—Just a minute, Mr. Leahy. What is the whole book?

Mr. Leahy:—I don't know. It is a majority report, there. Look (indicating).

THE COURT:—Yes. We haven't got to listen to all that, have we?

Mr. Leahy:—I hope not. I wouldn't dare read it. I don't know what it's all about.

Mr. Kelleher:—Your Honor, there is one, there is a single chapter in there for the recommendations of the majority report and a second report called the minority report.

THE COURT:—Let me say, gentlemen, of course you have a rebuttal coming, see; and if you deem that any other evidence is proper rebuttal evidence, you have a right and your time will come to offer it in evidence at that time. Don't you see?

Mr. Kelleher:—Yes, your Honor.

THE COURT:—In other words, strictly speaking, it isn't your time to be offering evidence.

Mr. Kelleher:—My objection is addressed to this:—

THE COURT:—Go ahead.

Mr. Kelleher:—That he is offering just the part of a document and not the whole, and that when he offers a part we are entitled to have the whole in.

Mr. Leahy:—No.

Mr. Kelleher:—During his case.

THE COURT:—He is offering his report.

Mr. Leahy:—I am offering the minority report. Mr. Kelleher, I think himself, introduced evidence of the adoption of the minority report.

Mr. Kelleher:—That is correct, but we didn't—

Mr. Leahy:—Now I want the jury to know what he introduced it for.

Mr. Kelleher:—Yes, but I think—but we didn't offer the majority.

THE COURT:—Well, I think when the proper time comes if you deem that the majority report is a proper part of the evidence you may offer it, and we can deal with it. I have gotten to the point, gentlemen, that I am a little interested in keeping this record down as much as I reasonably can and from now on limiting the scope of evidence as much as I reasonably can, without being too strict about it. I want to check on you gentlemen a little bit on both sides.

Mr. Leahy:—If your Honor please, I am not going to read that. Frankly, I wouldn't know what it's all about if I did.

These are the recommendations of the principal minority group:

"I. The minority recommends that government competition in the practice of medicine be discontinued and that its activities be restricted (a) to the care of the indigent and those patients with diseases which can be cared for only in governmental institutions; (b) to the promotion of public health; (c) to the support of the medical departments of the Army and

Navy, Coast and Geodetic Survey, and other government services which cannot because of their nature or location be served by the general medical profession; and (d) to the care of veterans suffering from bona fide service-connected disabilities and diseases, except in the case of tuberculosis and nervous and mental diseases.

"II. The minority recommends that government care of the indigent be expanded with the ultimate object of relieving the medical profession of this burden.

"III. The minority joins with the Committee in recommending that the study, evaluation, and coordination of medical service be considered important functions for every state and local community, that agencies be formed to exercise these functions, and that the coordination of rural with urban services receive special attention.

"IV. The minority recommends that united attempts be made to restore the general practitioner to the central place in medical practice.

"V. The minority recommends that the corporate practice of medicine, financed through intermediary agencies, be vigorously and persistently opposed as being economically wasteful, inimical to a continued and sustained high quality of medical care, or unfair exploitation of the medical profession.

"VI. The minority recommends that methods be given careful trial which can rightly be fitted into our present institutions and agencies without interfering with the fundamentals of medical practice.

"VII. The minority recommends the development by state or county medical societies of plans for medical care."

CROSS EXAMINATION

By Mr. Lewin:

Q.—Dr. Macatee, you were the chief of the staff, weren't you, at Garfield Hospital in the fall of 1937? A.—I was president of the staff.

Q.—Would that correspond to the chief of staff? A.—No, that does not.

Q.—Was there a chief of staff in addition to a president? A.—No; we did not have the system of chiefs of staff at Garfield.

Q.—I see. Would a letter addressed to Chief of Staff ordinarily come to you as president of the staff? A.—I think most likely it would.

Q.—Yes. Well, now, as president of the staff, the application of Dr. Selders made Nov. 10, 1937, was referred to you, was it not? A.—It was referred to my committee, the committee of which I was chairman.

Q.—I see. A.—Namely, the advisory committee.

Q.—Yes. And didn't that application consist of a filled-out form dated Nov. 10, 1937 (exhibiting a photostat to the witness)? A.—That is a form used at Garfield Hospital.

Q.—Yes. Well, I say, didn't his application— A.—It did.

Q.—Yes. Now, didn't it give his name and address and place and date of birth? A.—It did.

Q.—Did it give his degrees that he had received in medicine and in science? A.—It did.

Q.—And the institutions from which he had received those degrees? A.—Looking at the application, it does.

Q.—Yes. And didn't it show that he was a graduate of the University of Oklahoma Medical School in 1927? Right here (indicating). A.—It does.

Q.—And doesn't it show that he was then, at the time of the application, a man 40 years old? A.—It does.

Q.—Doesn't it show that he was a member of the American Medical Association through his membership in the Harris County, Texas, Association? A.—It does.

Q.—Doesn't it show that he had had teaching experience at the University of Oklahoma and at various hospitals in Texas and at Worcester City Hospital in Massachusetts? A.—It does.

Q.—Doesn't it show that he had had courtesy staff privileges at various hospitals, including St. Joseph's Infirmary, the Methodist Hospital, and the Memorial Hospital in Houston, Texas? A.—It does.

Q.—Doesn't it show that he had been a contributor to medical literature, and doesn't it give the titles of his disquisitions? A.—It does.

Q.—And doesn't it give as references the names of three persons to whom your hospital might write if they wanted to learn about him? A.—It does.

Q.—And aren't those references United States Senator Lee of Oklahoma, Dr. Walter E. Lee who was on the stand a few moments ago, a surgeon of Philadelphia, and Dr. John T. Moore, of Houston, Texas? A.—It does.

Q.—And then doesn't the application conclude with the statement that the applicant agrees to abide by the by-laws of the staff and such rules and regulations as may be from time to time enacted? A.—It does, yes.

Q.—Now, this is the application that came to your committee, is it not (indicating)? A.—It seems to be a photostatic copy of it.

Q.—Now let me ask you whether you communicated or your committee communicated with Senator Lee with regard to the applicant. A.—I don't know.

Q.—What? A.—I don't know.

Q.—You didn't, did you? A.—I did not.

Q.—And have you any knowledge that anybody on your committee did? A.—I have no such knowledge.

Q.—Yes. Now let me ask you whether you or your committee or anybody on the committee communicated with Dr. Walter E. Lee, the second reference? A.—Not to my knowledge.

Q.—And let me ask you the same thing with regard to Dr. John T. Moore, of Houston, Texas? A.—Not to my knowledge.

Q.—As far as you know none of these references were ever communicated with; is that correct? A.—Not by me.

Q.—Or by any committee of your hospital or medical staffs of your hospital?

Mr. Kellcher:—To your knowledge.

By Mr. Lewin:

Q.—To your knowledge? A.—To my knowledge, no.

Q.—Now, Dr. Macatee, isn't it true that following receipt of that application you received a letter from Dr. Conklin, the secretary of the Medical Society of the District of Columbia, addressed to the chief of staff of Garfield Memorial Hospital, dated Dec. 2, 1937? A.—I have no independent knowledge of that letter.

Q.—Such a letter as that is in evidence, Dr. Macatee, and it is addressed to the chief of staff. Would you ordinarily receive it? A.—Yes.

Q.—And didn't it include a resolution adopted by the District Medical Society on Dec. 1, 1937? A.—It did.

Q.—And didn't that tell you this: that the District Medical Society has resolved, as a matter of educational policy, it strongly recommended that all hospitals, including yours, engaged in the teaching and training of residents, interns, and nurses, where possible, follow the recommendation of the American Medical Association regarding the constitution of their entire staffs, both the regular staff and the courtesy staff; that each member of that staff be a member of the American Medical Association and of the local societies here either in Washington or in nearby states?

Do you want to refresh your recollection? (Handing an exhibit to the witness.) Is that correct? A.—I didn't understand it was addressed as a question. That is the purport of the resolution.

Q.—Yes. And wasn't that resolution taken up at the advisory committee of the medical staff of Garfield Memorial Hospital on Dec. 6, 1937? A.—It was.

Q.—And were you present at that time? A.—I don't know. There's nothing in that to—

Q.—If you were, you would be the presiding officer, would you not? A.—I would, yes.

Q.—And you would ordinarily be present at such meetings, would you not? A.—I would.

Q.—Well, isn't it a fact that the secretary was directed by the advisory committee to reply to the communication that I just showed you from the District Medical Society? A.—That is what the minutes show.

Q.—Yes. And wasn't the secretary a defendant in this case, Dr. F. X. McGovern? A.—He was.

Q.—Yes. And as a matter of fact didn't he reply to Dr. Conklin by his letter dated Jan. 3, 1938 (handing a photostat to the witness)? A.—That exhibit indicates that he did, yes.

Q.—And didn't he say that in reply to that letter, and enclosing the resolution, that he had been requested to advise Dr. Conklin and the Medical Society that the present policy in force at Garfield Hospital is in conformity with the provisions of that resolution? A.—That's what the letter states.

Q.—That's what the letter states. And as far as you know, there is no question but that it states the correct fact; isn't that so? A.—Not with the emphasis on "present," as you put it.

Q.—Oh, really? Well, now, I thought I understood you to testify that you hadn't made any change with regard to that policy at Garfield Memorial Hospital throughout the two years 1937 and 1938. A.—That's my recollection of the fact.

Q.—Is the defendant Warfield a member of your medical staff? A.—He is.

Q.—Yes. Well, let me show you what purports to be his answers to a questionnaire given him by a committee of which he was chairman, a hospital committee of the District Medical Society, and see if this refreshes your recollection:

"Question 8: Does your hospital require membership in the Medical Society of the District of Columbia as a qualification for appointments to its medical staff?"

And isn't his answer, "Yes, or have applied"? A.—That is the answer given there.

Q.—Yes. And is that correct? A.—It is not.

Q.—Question 9 is, "What percentage of the entire medical staff of your hospital are members of the Medical Society of the District of Columbia?"

And his answer is, "Over 75 per cent. All recent appointments."

That is the answer, isn't it? A.—That's the answer given there.

Q.—Does that refresh your recollection that on or about that time, although only 75 per cent were then members of the District Medical Society, all recent appointments were required to be members? A.—That does not refresh my recollection.

Q.—Would you deny that that was the fact? A.—I do.

Q.—Would you deny that about this time, after the receipt of the resolution of the District Medical Society, you changed your policy to require all new, recent appointments to apply for membership in the District Medical Society? A.—Not within my recollection.

Q.—It's simply a question of your recollection, is it? A.—Yes.

Q.—Isn't it true also that Dr. Warfield, in answer to the question, "Is your hospital in sympathy with the policies of the Medical Society of the District of Columbia?" replied "Yes"? A.—That is his answer.

Q.—And wasn't he speaking with regard to Group Health Association when that answer was made?

Mr. Leahy:—I object. It calls for a conclusion of the witness.

By Mr. Lewin:

Q.—And the policies of Group Health Association as appearing in the first question?

Mr. Leahy:—I object.

THE COURT:—Well, I don't know what the paper states, Mr. Lewin.

Mr. Lewin:—Would you like to see it?

THE COURT:—Unless this gentleman had something to do with the making of that paper or authorized the making of it, or something like that, I do not see how he is bound by that.

Mr. Lewin:—No, I didn't mean to bind him. I was wondering if I might refresh his recollection as to these facts.

The Witness:—I have no recollection of the paper.

By Mr. Lewin:

Q.—Well, have you any recollection of the fact that your hospital was then in sympathy with the policies of the District Medical Society with regard to Group Health Association? A.—I couldn't make that statement then or now.

Q.—Now, isn't it true that the superintendent of the Garfield Memorial Hospital referred Dr. Selders' application which I have just shown you to the Committee on Surgical Privileges? A.—Yes.

Q.—And I believe you said that committee included Dr. Carr and Dr. McGovern and Dr. Charles Stanley White and Dr. Strine; am I correct? A.—Yes.

Q.—Now, didn't he say, when he submitted this to them for their opinion, that "This," speaking of Selders' application, "is not a 'Run of Mine' case, and your action may be far reaching. Information shows him"—that is Selders—"to have sufficient training for personal recognition, when compared with many now approved for courtesy privileges at Garfield Memorial Hospital. He is a member in good standing in A. M. A., County and State Medical Societies in Texas, and was returning from Massachusetts to Texas when offered the position with H. O. L. C."?

Doesn't he also say that "Should your recommendation be adverse, for other than personal qualifications, request they be stated, in order that the Board of Directors might have the benefit of your advice and counsel"? Am I correct? A.—That is what the letter states.

Q.—Yes. Now, didn't you know that that had been done? A.—I did not.

Q.—Was the surgical service, as far as you know, authorized to pass on this applicant for anything other than his personal qualifications? A.—My answer is that there is no regulation which directs the surgical service how it shall reach its conclusions with regard to applications.

Q.—So if such a report were referred to you, you would think that you had the right to take into consideration anything whatever in addition to the man's personal standing or his professional capacity and qualifications? A.—I would think from that letter that I was put on notice to be especially careful to look into his qualifications fully.

Q.—And you would think you were put on notice to do that because of his connection with Group Health Association, wouldn't you? A.—At that particular time I would think so,

because of the very strong and very bitter publicity directed at the hospitals in the public press of this city.

Q.—Now let me ask you whether Dr. McGovern, the secretary to your advisory committee, wasn't authorized and did not reply to Mr. Aspinwall with regard to this application of Dr. Selders? *A.*—He did.

Q.—Now, was he speaking for the advisory committee of the medical staff when he so wrote? *A.*—He was.

Q.—Therefore he was speaking for you, wasn't he, among others? *A.*—I am presiding officer of the advisory committee, without vote.

Q.—And would you say he was speaking for you or he was not? *A.*—He was speaking for me because I was in sympathy with the action of the advisory committee.

Q.—He was? *A.*—I think it was taken on good grounds.

Q.—Yes. And were you in sympathy with the reasons which Dr. McGovern said prompted that resolution? *A.*—I was.

Q.—All right. And wasn't this the resolution: "That pending the settlement of the question raised as to the ethical status of Group Health Association, Inc., and pending further study of the professional qualifications of Dr. Raymond E. Selders, that he be not granted courtesy privileges at Garfield Memorial Hospital, except of course in a real emergency"? *A.*—That is correct.

Q.—Now, there you were delaying action pending the ethical status not of Dr. Selders but of the organization to which he belonged; am I correct? *A.*—That is one statement.

Q.—Yes. And isn't this the reason that was given for it: "The reason prompting this recommendation is the fact that Group Health Association, Inc., a lay corporation, is considered unethical by the Medical Society of the District of Columbia, and its legality is being questioned"? Is that right? *A.*—That is the statement of the letter.

Q.—Yes. And isn't it a fact within your knowledge that it was then considered unethical by the Medical Society of the District of Columbia? *A.*—That is true.

Q.—Does not the reason continue that "Dr. Selders has been hired by Group Health Association as its surgeon. It is the opinion of the Advisory Committee that if the Garfield Hospital allows Dr. Selders courtesy privileges that it would be placed in the light of aiding and abetting Group Health Association, Inc."? *A.*—That is what the letter states.

Q.—And that was your reason, was it not? *A.*—Yes.

Q.—And that was your reason, although you had not yet communicated with Dr. Selders' references or heard any report on his professional qualifications?

Mr. Leahy:—Now, wait a minute. That is a double-barreled question.

Mr. Lewin:—All right, let us take it step by step.

Mr. Leahy:—What do you mean by one? and then we'll get it.

By Mr. Lewin:

Q.—At that time you hadn't communicated with his references, had you? *A.*—Indirectly we had.

Q.—You mean you referred it to the Washington Academy of Surgery? *A.*—I do.

Q.—When did you do that? *A.*—I don't know.

Q.—Well, did you do it before or after this letter? *A.*—The rule was to require them—the applications as they came in.

Q.—Did you refer it to the Washington Academy of Surgery on Dec. 6, 1937 (exhibiting a photostat to the witness)? *A.*—We did.

Q.—And had you heard from the Washington Academy of Surgery?

Mr. Leahy:—Now, pardon me. Would you just give me the date of the letter you are referring to, Mr. Lewin?

Mr. Lewin:—Yes. I will give you both references. The reference was December 6, and the letter I have examined him about was December 17.

By Mr. Lewin:

Q.—Had you had any response from the Washington Academy of Surgery at that time? *A.*—The response from the Washington Academy of Surgery would come to the surgical group of the staff and not to the advisory committee.

Q.—So the reason which you advised the president of the hospital that to approve Selders would be aiding and abetting Group Health Association antedated this letter by over a month; am I correct? *A.*—Yes.

Q.—And did the Washington Academy of Surgery give you any grounds for recommending against Dr. Selders' application? Will you gaze at that letter again and see whether it discloses any reasons at all? *A.*—That letter gives no grounds.

Q.—Now, as a matter of fact, before you received any word from the Washington Academy of Surgery your board of direc-

tors on January 25 had already withdrawn Dr. Selders' temporary privileges and denied him courtesy privileges; isn't that correct? *A.*—On two grounds recommended to them.

Q.—Yes. On two grounds. And that was six days before you got any report about his qualifications; am I right? *A.*—Yes, because there were other sufficient grounds.

Q.—Yes. And weren't those grounds the grounds recommended by the medical staff? *A.*—They were the grounds recommended by the medical staff.

Q.—Yes. And wasn't the action of the directors predicated upon the recommendation of the medical staff? *A.*—It was.

Q.—And didn't Dr. Eisenman so tell Dr. Selders (handing a letter to the witness)? *A.*—He did.

Q.—And isn't it true also that before you received any reply from the Washington Academy of Surgery your president had received a letter from the president of Emergency Hospital asking for an explanation for the admission of Miss Sara Abbott to the Garfield Memorial Hospital (handing a letter to the witness)? *A.*—That letter is not within my knowledge until you exhibit it here.

Q.—You never had any knowledge of that? *A.*—I never had any knowledge of it.

Q.—Did you have any knowledge of President Aspinwall's reply giving the explanation? *A.*—None.

Q.—Did you know that copies of both those letters were sent to the District Medical Society at the time they were written? *A.*—I did not.

Q.—Now, the Castle letter which was offered this morning was dated March 30, was it not? *A.*—Yes.

Q.—And at that time the Board of Directors had turned down Dr. Selders on January 25? *A.*—It had.

Q.—And it denied him even temporary privileges; is that correct? *A.*—It had.

Q.—And at that time also your medical staff had met in March and had confirmed that action, had it not? *A.*—The medical staff does not confirm the action of the Board of Directors.

Q.—Well, didn't you go along with that action in March of 1938? *A.*—The Board of Directors having acted, the medical staff had nothing further to do with it.

Q.—Didn't the medical staff consider it again in March of 1938? *A.*—I have no recollection of it.

Q.—On Feb. 2, 1938 did not the medical staff meet (handing the witness a paper)? *A.*—What is this document?

Q.—These are my notes. Do they refresh your recollection? *A.*—Only to the extent that that would be about the time when the medical staff would normally meet.

Q.—Did you not attend that meeting? *A.*—I could not tell you at this late date.

Q.—Did you not present information there with regard to Dr. Selders' application? *A.*—My recollection would have to be refreshed.

Q.—All right. Here is a photostatic copy of the minutes themselves. Will you look at them and see whether or not they refresh your recollection? *A.*—All right.

Q.—Is it not true that when Miss Tew was admitted to Garfield Memorial Hospital for a short time in February of 1938 Dr. Selders then had privileges to bring a person there in an emergency? *A.*—He had, and he might still have.

Q.—Is it not true that at that time you had no formal definition of an emergency? *A.*—That is true.

Q.—Is it not true that at that time you relied upon the judgment of the surgeon bringing the patient as to whether or not it was an emergency? *A.*—I could not unqualifiedly answer Yes to that, sir.

Q.—Would not the judgment of the attending surgeon ordinarily be the criterion of admission of an emergency case? *A.*—If he had courtesy privileges.

Q.—Suppose he did not have. *A.*—That would not be the criterion.

Q.—Suppose he had privileges to bring a patient there in an emergency? *A.*—He would in an emergency.

Q.—I ask you again, did you have any rules or regulations governing the definition of an emergency at that time? *A.*—None governing the definition of "emergency," but plenty governing the admission of surgeons not on the courtesy staff.

Q.—As a matter of fact, following the Tew incident you drew up this definition of "emergency"? *A.*—I did.

Q.—And that is the first time you ever had such a definition? *A.*—I do not know as to that.

Q.—In that definition you said specifically that it was to apply to Group Health Association, did you not? *A.*—I said that the definition would apply to Group Health Association so that there would be no question involved.

Q.—You did not pick out anybody else or any other clinic to whom it might apply in specific terms? A.—No.

Q.—Is it not a fact that you made a copy of the definition of "emergency" available to the other hospitals in the District of Columbia? A.—I did not.

Q.—Is it not a fact that the other hospitals in the District of Columbia applied to your hospital for that definition so that they might keep it? A.—I have been told so.

Q.—The action of the surgical service in recommending against Dr. Selders was based upon the ethical status of Group Health Association and the fact that the legality of Group Health was being questioned? A.—There was another reason advanced by the surgical service.

Q.—But pending the study of Dr. Selders— A.—There was another reason advanced by the surgical service.

Q.—What was that? A.—It was that being the sole surgeon of a large group of people they would not be able to grant him surgical privileges.

Q.—Will you find the statement of any action which the surgical service took in December of 1937? Have you any notes here with you? A.—No.

Q.—The folder that you have in your lap—does that contain hospital documents at all? A.—It does not.

Q.—Suppose you look at these, then (handing papers to the witness). I show you Dr. McGovern's report to the president. Does that indicate that the reason you just mentioned was presented?

THE COURT:—Maybe you can get at it in this way. Was it a matter of record or not?

THE WITNESS:—I did not catch that.

THE COURT:—Was this additional reason a matter of record?

THE WITNESS:—Yes, sir.

By Mr. Lewin:

Q.—I show you the minutes of the Executive Committee of the Board of Directors and ask you if there is anything in that that could be interpreted as being the reason you suggested?

MR. LEAHY:—What is the date?

MR. LEWIN:—Dec. 28, 1937.

THE COURT:—If I may suggest: Maybe he can indicate what paper it would be.

MR. LEWIN:—I wish he would.

By Mr. Lewin:

Q.—Can you so indicate? A.—My information is it was a letter addressed by Dr. Hooe of the Surgical Service to me as Chairman of the Advisory Committee.

Q.—Was it not addressed to you in the fall of 1938? A.—I don't remember the date of it.

MR. LEAHY:—I have a copy of it right here.

By Mr. Lewin:

Q.—Am I correct that it was Nov. 21, 1938? A.—It was; evidently referring to a second application after legality had been determined.

Q.—So that the reasons given in the fall of 1937 and the reasons given for the denial of privileges in January 1938 did not include this reason which you have now mentioned as the additional one? A.—It is not so stated in the record.

Q.—Did you not just tell his Honor that it was stated in the record, if it was stated at all? A.—It was not so stated in the record.

MR. LEAHY:—His Honor asked him if it was made a matter of record, and he said "Yes."

THE COURT:—I thought he referred to a letter.

By Mr. Lewin:

Q.—Now, Dr. Macatee, after you received notice of Mr. Justice Bailey's decision upholding the legality of Group Health Association, was Selders admitted to your staff? A.—He was not.

Q.—Was he admitted at any time during 1938 after his temporary privileges were withdrawn? A.—So far as I know, he was not.

Q.—And down to the date of the indictment he was not admitted, was he? A.—He was not.

Q.—Although in the fall of 1938 he made an additional application? A.—Yes.

Q.—And you simply let it take the same course, did you not? A.—Yes.

Q.—And referred it to those various committees? A.—I don't know whether all the references were made or not.

Q.—Were references communicated with in the fall of 1938? A.—I don't know.

Q.—So far as you know, there was nothing more that happened except to send the applications through the mill again? A.—Yes. In the operation of the mill I had nothing to do

normally, in my official capacity, with following up these references or making any communications having to do with them.

Q.—What were the names of the two Group Health Association doctors who were admitted in 1938? A.—One, I think, was Dr. Price, and the other, my recollection is was a Dr. Halstead. I am not sure.

Q.—Dr. Halstead testified to the contrary when he was on the stand. Could it have been Dr. Bowe?

MR. LEAHY:—Testified to the contrary of what?

MR. LEWIN:—He testified that he was not admitted to the staff of Garfield Hospital in 1938. There cannot be any doubt about that.

MR. LEAHY:—I don't know. It is too far back for me.

THE WITNESS:—The name Bowe sounds familiar.

By Mr. Lewin:

Q.—It may have been Dr. Bowe and Dr. Price? A.—Yes.

Q.—As a matter of fact, were not those gentlemen admitted for the first time on Dec. 19, 1938? A.—Yes.

Q.—And, as a matter of fact, did not you and your colleagues at the hospital know that a grand jury of the United States had been convened in the late summer of 1938 and was investigating this very matter at the time they were admitted? A.—I don't think that entered into the consideration of the matter.

Q.—I did not ask you that. I asked you whether you did not know that that was so. A.—No; I don't know that it is so, but I do know that that would not influence me.

Q.—As a matter of fact, don't you know that those gentlemen were admitted for the first time two days before the indictment in this case came down? A.—I don't know that.

Q.—What would your testimony be now with regard to Dr. Halstead? Does that refresh your recollection that he was not admitted at all? A.—No; I don't remember.

Q.—On your direct examination, Dr. Macatee, I find on referring to the record, page 4470, that you gave this testimony. Mr. Leahy asked you with regard to the so-called White List—

Q.—Do you recall, Doctor, at what date, if any, any authorization was made to prepare an approved list which has been called a White List?

And you answered:

"That was incorporated in the constitutional amendment adopted in March 1937, in which the Executive Committee was charged with the duty of preparing such a list."

Do you remember that testimony? A.—I do.

Q.—When you said it was incorporated in the constitutional amendment, you did not mean that the list itself was incorporated in that amendment, did you? A.—I did not; the authorization.

Q.—Then you were asked:

"Q.—I ask you, Doctor, if the preparation of an approved list had anything whatsoever to do with Group Health Association."

And you answered:

"A.—Nothing whatsoever."

Do you remember that? A.—I do.

Q.—Do you still stand on that testimony? A.—I do.

Q.—Did you mean to confine your answer to the preparation of an approved list back in March, or the preparation of the approved list in July of 1937? A.—I meant to limit it to the preparation of an approved list in July 1937.

Q.—You did? A.—Yes.

Q.—So that your testimony is that the preparation of the approved list in July of 1937 had nothing whatsoever to do with Group Health Association? A.—Yes.

Q.—You also testified on page 4483 of the record as follows:

"Q.—Did that approved list, as it came before the Executive Committee on July 12, 1937 have anything whatsoever to do with the approval or disapproval of Group Health Association, Incorporated?"

And your answer was:

"A.—It did not."

Do you remember that testimony. A.—I do.

Q.—Do you stand on that testimony? A.—I stand on it.

Q.—By that did you mean to limit your answer to the approved list as it came before the Executive Committee, or did it include also as it left the Executive Committee on July 12, 1937? In other words, is there any point in this definition as it came before the Executive Committee—

MR. LEAHY:—I made no point of that.

A.—There is no point in that. My answer is the same both as it came before and as it left.

By Mr. Lewin:

Q.—And your testimony is that it had nothing to do with Group Health Association and was not directed at Group Health Association? A.—That is true.

Q.—Did you mean to testify also that when it was first authorized to be issued to the hospitals as well as the members on June 21, 1937 it was not aimed at Group Health and had nothing to do with it? A.—It was not. It was unfinished business left over from March 25.

Q.—Is it also your testimony that when it was sent out on July 29 both to the members of the District of Columbia Medical Society and to all the private hospitals, that then it was not directed toward Group Health Association? A.—It was not.

Q.—Is it not true that the committee which was appointed in March 1937 to prepare this White List consisted of the defendant McGovern as Chairman, and of the defendant Hooe and of another doctor named Dr. Daniel Borden? A.—I don't recollect the composition of the committee.

Q.—To refresh your recollection I show you the minutes of March 19, 1937. A.—Yes; that would be the committee.

Q.—And the committee then consisted of three, two of whom are defendants in this case; is that correct? A.—Are defendants; yes.

Q.—Is it not true that the first approved list which was sent out under Section 5 was approved by the Executive Committee on July 12, 1937? A.—I think that is the correct date.

Q.—No list under Section 5 had been approved by the Executive Committee or the Society prior to that date? A.—That is true.

Q.—Is it not true that on July 12, 1937 the Executive Committee had had the subject of Group Health before it on a number of occasions? A.—On two occasions.

Q.—Had it not discussed the Group Health Association situation on June 1? A.—It had.

Q.—At an executive hearing to which Colonel Jones came? A.—Yes.

Q.—And at which a committee was appointed to make further study? A.—Yes.

Q.—And was not that committee required to cooperate with Dr. Verbruycke's committee on Medical Economics? A.—Yes.

Q.—And was not Dr. Yater a member of Dr. Verbruycke's committee? A.—I don't know.

Q.—Dr. Yater is a defendant in this case, is he not? A.—Yes.

Q.—If the records show he was a member of that committee you would have no doubt of that, would you? A.—I would not.

Q.—Did not the committee include Dr. McGovern as Chairman of the committee, and Dr. Hooe? A.—Include them?

Q.—Yes, those two. A.—Yes.

Q.—And they were the same McGovern and Hooe who were on the committee to prepare the approved list; is that right? A.—Yes.

Q.—Is it not true that Group Health Association had been discussed by the Executive Committee on June 21? A.—That is true.

Q.—And at that meeting Dr. Verbruycke had made his first report for both his committees? A.—Yes, sir.

Q.—And at that meeting you had decided to have a conference with Dr. Brown of Group Health on June 21? A.—That is true.

Q.—And had not Group Health Association been pretty fully discussed at that meeting with Dr. Brown and Mr. Penniman and some of those other gentlemen on June 24? A.—That is true.

Q.—Is it not also true that you and a number of defendants in this case had discussed Group Health Association on May 16 in Dr. William Gerry Morgan's office? A.—That is true.

Q.—Is it not true also that you and a number of the defendants in this case discussed this subject with Dr. Olin West of the American Medical Association in the early part of June? A.—I don't think I had.

Q.—Did you not know that a committee had met with Dr. West? A.—Pardon me. I had discussed it with Dr. West in Atlantic City.

Q.—And had you not also discussed it with him at the Metropolitan Club? A.—No, sir.

Q.—Did you not know that some of them had done so? A.—I heard so.

Q.—But you say you discussed it with him at Atlantic City? A.—Yes.

Q.—That was June 9 or 10, was it not? A.—Yes.

Q.—So, would you say it had been discussed by you and others prior to July 12, 1937 on some seven occasions? A.—Yes.

Q.—Is that correct? A.—I don't know how it adds up, but it may have been that many times.

THE COURT:—Let us call it seven.

Mr. Lewin:—It is six or seven.

By Mr. Lewin:

Q.—Let me hand you the minutes of this meeting of July 12. Will you refer to the minutes of July 12, 1937, which are the

minutes of the meeting at which the list was approved, and see if the committee of which Dr. McGovern was chairman did not report? A.—It did.

Q.—And did he not adopt as his report the report prepared by Dr. Verbruycke? A.—Yes.

Q.—And was not that adopted by Dr. McGovern's committee of which you were a member, as the report of the committee? A.—Yes.

Q.—Is it not true that in the report the following appears with regard to Group Health:

"Active opposition is possible at present. Whether it is advisable is another matter, unless some substitute plan can be suggested"

Mr. Leahy:—Just a moment. That report was not adopted.

Mr. Lewin:—The witness has just testified to the contrary.

Mr. Leahy:—I object, if your Honor please, because I know distinctly what counsel is directing the attention of the witness to. There were two reports. One report was adopted and the other was tabled. He is now directing the attention of the witness to the one that was tabled.

Mr. Lewin:—Your Honor, I did not ask him for the action of the Executive Committee on this report. I asked him whether this is not the report of the committee headed by Dr. McGovern and of which he was a member.

Mr. Leahy:—No; you did not.

Mr. Lewin:—I beg your pardon; I did.

Mr. Leahy:—I will stand on the record.

THE COURT:—Is that what you want to ask him?

Mr. Lewin:—I pointed it out in the minutes.

THE COURT:—It will be understood.

By Mr. Lewin:

Q.—Is not this (indicating) what you and Dr. McGovern and Dr. Hooe and those others reported:

"Failure to place a cooperative on the approved list of the Medical Society would automatically forbid any consultations by members of our Society. Any full time employees of the Corporation could probably easily fail to be put on the courtesy list of the hospitals for one reason or another without the fact of his connection with the cooperative being even mentioned. In fact, any combative methods would necessarily have to be camouflaged to the nth degree."

Am I right? A.—Are you right in what?

Q.—That that was part of your report, or the report of the committee headed by the defendant McGovern. A.—Is this document that you are reading a letter addressed to Dr. McGovern by Dr. Verbruycke after he had relinquished his post as chairman of the Executive Committee?

Q.—Is not this correct? Let us have no doubt about it. At the first part of that meeting did not this transpire—

Mr. Leahy:—Why don't you ask the witness?

Mr. Lewin:—I am going to have him answer it from the minutes.

By Mr. Lewin:

Q.—Referring to the report which was prepared by Dr. J. Russell Verbruycke, who was then chairman of the committee on Medical Economics, it says:

"Since that time the committee has met and studied and reviewed supplementary plans that Dr. Verbruycke and Dr. McGovern offered as a report to the Executive Committee tonight."

Is that correct? Does that appear there? A.—That appears there; yes.

Q.—Does not the language that I have read you appear in that very report which Dr. McGovern offered as a report of his committee? A.—It appears in the letter from Dr. Verbruycke which was adopted only in principle.

Q.—Was it not adopted as your report? A.—In principle only.

Q.—Did you not testify that these minutes correctly reflected what transpired at that meeting? A.—If I did, then I qualify that answer.

Q.—You now qualify it to say this is not your report? A.—That is a report adopted in principle. It is not my report.

Q.—Do you see any place in the minutes where it says that it was adopted only in principle? A.—Did you not just read so?

Q.—I don't remember it. (Reading):

"Which Dr. McGovern offered as a report to the Executive Committee." Is there anything in there about offering it only in principle? A.—Yes. (Reading): "Was approved in principle by the Executive Committee at a subsequent meeting."

Q.—That was the original report, was it not, that was rendered on June 21, and does it not clearly show that? A.—(Reading) "The secretary made a motion that this letter be accepted as a report of the subcommittee and be approved in principle."

Q.—That is the action of the Executive Committee, is it not?
A.—That is the action of the Executive Committee.

Q.—Now I ask you whether the action of your subcommittee was not to adopt that as your report? A.—I cannot say that it was, because the report of the subcommittee was made extemporaneously and at the time there had not been any formal meeting of the committee and no formal action taken.

Q.—Do not the minutes here show that that was offered as the report of your committee and accepted as the report of your committee?

Mr. Leahy:—Point it out, please.

Mr. Lewin:—I have pointed it out a number of times.

Mr. Leahy:—Oh, no; you have not.

The Witness:—To get the picture, you have got—

By Mr. Lewin:

Q.—Now, wait. I have the picture. I want an answer to my question, Dr. Macatee. You answered very glibly before.

Mr. Leahy:—I object to the characterization.

THE COURT:—I will not permit any such remarks as that.

Mr. Lewin:—I am sorry, your Honor. I ask that the remark be withdrawn.

THE COURT:—Please do not let it be repeated.

Mr. Lewin:—Very well, your Honor.

By Mr. Lewin:

Q.—What is your answer to my question now? A.—What is the question?

Q.—I want to know whether the report from which I read was the report of your committee which was offered as the report of your committee and taken by the Executive Committee as the report of your committee? A.—It was a report offered by the chairman at that time without objection by other members of the subcommittee and adopted by the Executive Committee in principle only.

Q.—Is not this true, that it contained the language that I have read? A.—Yes.

Q.—Is it not true that when you said that failure to put a cooperative on the approved list of the Medical Society would automatically forbid consultation, were you not referring to this approved list, approved that very day or night, July 12, under Section 5? A.—That is probably the list referred to there.

Q.—And when you referred to failure to put a cooperative on the approved list were you not referring to Group Health Association? A.—I was not; the letter was.

Q.—Is not that what the report was referring to? A.—It was.

Q.—Is it not true also that there was an amendment and only one amendment to the approved list that night which was offered for approval of the Executive Committee? A.—I have no recollection of any amendment.

Q.—As a matter of fact, did you not object to Group Health Association on the ground that you thought it was an instrumentality of the Federal Government? A.—On the occasion of the consideration of the approved list?

Q.—Yes. A.—Group Health Association was not considered in the preparation of the approved list.

Q.—In these meetings prior to July 12, and on July 12, as disclosed by this report, was not one of your objections to Group Health Association that you regarded it as the Government coming into the practice of medicine? A.—That was one consideration.

Q.—Then at this time you regarded Group Health Association as connected in some way with the Federal Government, did you not? A.—Yes.

Q.—And would you regard some of its doctors on the staff of Group Health as being connected with the Federal Government? Is that right? A.—Yes.

Q.—Is it not true that when this report was first brought to the attention—that is, the report on the approved list, that item read, as one of the groups to be approved, "Medical personnel connected with the Federal and Municipal governments within the District of Columbia or within ten miles thereof? Is that right? A.—That is true.

Q.—If that list had been approved in that manner it would have carried— A.—Just a moment.

Q.—Wait a minute.

THE COURT:—He has a right to explain his answer.

Mr. Lewin:—He is trying to answer something else.

The Witness:—No; I am not. I am trying to answer that particular question, because that particular No. 10 had to do with services by medical officers and set up with statutory rights behind them.

By Mr. Lewin:

Q.—If item 10 had been approved as drawn, that you were approving of "medical personnel connected with the Federal

Government," it might have included Group Health Association and its members, might it not? A.—It might not.

Q.—You say it would have, do you? A.—Oh. I see the drift of your question now.

Q.—Just answer the question. Would it not? A.—Your question cannot be answered as put.

Q.—If you had permitted this report to go through with that item 10 reading that you approved the medical personnel connected with the Federal Government, that might have carried with it the approval of Group Health Association and its members, might it not? A.—It might have. I have no knowledge of its having been amended with that object in view.

Q.—But it was amended, was it not, and was not the amendment suggested by you? Am I right? A.—Yes. I said, "employed by" rather than "connected with."

Q.—Is this correct— A.—(Continuing) And the purpose of making the amendment was—

Q.—I did not ask you that:

"Dr. McGovern read the proposed list of approved organizations, groups, and individuals. Dr. Macatee suggested that the words 'employed by' be substituted for the words 'connected with' in item 10. With this change the list was approved upon motion duly seconded and adopted."

Is that correct? A.—That is correct.

Q.—So that after such amendment went through the list could not be construed as approval of Group Health Association or its members, whereas before it might have been? A.—The amendment had nothing to do with anything other than the grammatical construction of the document.

Q.—Nevertheless the amendment had the effect that I have just indicated, did it not?

Mr. Leahy:—I object. That is argumentative.

THE COURT:—Yes; that is argumentative.

A.—It is not my conclusion.

By Mr. Lewin:

Q.—Is it not true that when that list was amended and was ready to be issued the following transpired in the minutes, directly connected with the list itself and without intervening colloquy whatever:

"Dr. Raymond T. Holden Jr., inquired as to the personnel maintained in the proposed Group Health Association, Inc. Dr. Hooe pointed out that it was a separate individual corporation and would have to be approved as a single unit. As a matter of information Dr. Hooe would inquire if he was right in the assumption that this approved list would not have to be submitted to the Society, but from tonight would be filed in the secretary's office.

Does not that appear? A.—It appears.

Q.—Just in the way I have stated it, does it not? A.—Yes.

Q.—So that Group Health Association was specifically considered at the very time that the White List was approved, and in connection with it? A.—Group Health Association was specifically considered and excluded.

Q.—That is what I thought. A.—Excluded from consideration in connection with the White List.

Q.—Do you find anything that excludes it here (indicating)?

A.—(Reading) "Dr. Holden inquired as to the personnel maintained in the proposed Group Health Association. Dr. Hooe pointed out it was a separate individual corporation and would have to be approved as a single unit when it came up for consideration for approval."

Q.—Does it say "when it came up for consideration"? A.—No; but that is the meaning of it.

Q.—I think you testified that the reason it could not be approved then was because it had not made application for approval; is that right? A.—That among other things.

Q.—Did you not know that at that time it had been in existence as a corporation some five months? A.—I did not. I don't know how long it had had corporate existence. I had known of it only since about the middle of May.

Q.—Did you not know that in June and July it was an organization seeking medical personnel? A.—I did not know whether it was then seeking medical personnel.

Q.—Had not Dr. Brown told you that in his meeting with you on June 24? A.—He said that eventually it would seek medical personnel.

Q.—Did he not say they were seeking medical personnel then? A.—I don't recollect that.

Q.—Did you not know they had already approached Dr. Neill and asked him to come with the staff? A.—I had no knowledge of that.

Q.—Did you not say when you went down to see the representatives of Group Health that you understood approaches had been made to your members, on July 26? A.—Yes.

Q.—So you knew on July 26 that they were seeking medical personnel? A.—Obviously I did.

Q.—Do you think you gained that information between July 12 and July 26? A.—I don't know how I gained the information.

Q.—Dr. Macatee, did you not know on July 12 that they were seeking medical personnel and had been approaching some of your members? A.—I couldn't testify to that to save my life.

Q.—You would not deny it? A.—I cannot deny it; no.

Q.—If they were seeking medical personnel, would not this have been the most suitable time of all to decide whether to put that organization on the approved list or not?

Mr. Leahy:—I object as argumentative.

THE COURT:—Objection sustained.

By Mr. Lewin:

Q.—Was not the purpose of having an approved list to guide your members as to whether or not they could join up with or participate in certain organizations? A.—In certain organizations, but not Group Health Association.

Q.—That is what you said. But I ask you whether or not the whole purpose of the approved list was not to guide your members as to whether they could join or not?

Mr. Leahy:—Join what?

Mr. Lewin:—Organizations.

A.—The whole purpose of the approved list was in Chapter 9, Article 4, Section 5, which had to do with something else entirely, unrelated to Group Health Association.

Mr. Lewin:—I move that that be stricken as not responsive.

THE COURT:—You asked him what the purpose was.

By Mr. Lewin:

Q.—I asked you whether it was to indicate to your members whether they could participate with certain organizations. A.—My answer would have to be something of a recital, and that is that the amendment to the constitution began in January 1936, and it was amended in January 1937.

Mr. Lewin:—I do not think that is responsive, your Honor. I move that it be stricken as totally unresponsive.

The Witness:—And that it is—

Mr. Lewin:—I have a motion pending.

THE COURT:—Just a moment, Doctor. It is not always possible to answer a question yes or no. It may not give a correct impression. I think it is well, if he can answer yes or no, to do so, and then make any qualifications or explanations that are necessary. After all, it does not make much difference how you approach the answer. He was giving you his understanding of the purpose. You asked for the purpose. He was explaining to you the purpose as he understood it.

Mr. Lewin:—I most respectfully submit that the witness was giving me a history.

THE COURT:—I think the Doctor was getting away from the purpose.

The Witness:—My next sentence would complete the history.

Mr. Lewin:—I do not want the history. I move that all that history go out.

THE COURT:—He told you the purpose, and that is what you were after. Suppose you put another question.

By Mr. Lewin:

Q.—I will ask you this, whether it would not have been a more suitable time to put the organization on or off that list when they were in the formative stage and going around trying to get medical personnel, if you wanted to guide your own members? A.—It may have been a suitable time, but we did not have sufficient information about it to know at that time.

Q.—Now, Doctor, you said that one of the reasons it could not go on the approved list was because it had not applied for approval. A.—Did I say that?

Q.—That is what I recollect. Did you not say that? What is your answer? A.—I would rather say that in my report I said so in September.

Q.—Did you not testify here on Friday that that was the reason you could not put it on the approved list? A.—My memory fails me there, sir.

THE COURT:—Suppose you ask him now and save time.

By Mr. Lewin:

Q.—What is your answer now? Was that the reason you could not put it on the approved list, or one of them? Will you answer that question? A.—The answer is that it is bound up in the fact that at that meeting the special committee was charged to go down and have another talk with Group Health Association to see if we could not reach some accord.

Mr. Lewin:—I object, and ask that the answer be stricken as unresponsive.

THE COURT:—Have you got the record there?

Mr. Lewin:—Yes, sir.

By Mr. Lewin:

Q.—Did you not testify as follows:

“Q.—Did that approved list, as it came before the Executive Committee on July 12, 1937, have anything whatever to do with the approval or disapproval of Group Health Association, Inc.?” And you answered:

“A.—It did not.

“Q.—Why not?”

“A.—Because Group Health Association had not been at a stage of development where it had asked for approval or where approval could be given, for lack of information.”

Was that your testimony? A.—That sounds like it.

Q.—Can you tell me what other organizations that were approved and put on the approved list asked for approval at that time? A.—None. I say, none, Mr. Lewin. I am not sure about that.

Q.—That is your best recollection, is it not? A.—I was not a member of the committee that received applications for approval, so I just don't know.

Q.—Application for approval was not a condition precedent to getting on that approved list, was it? A.—Not this one; no.

Q.—As a matter of fact, Dr. McGovern was going out into other states to round up the list himself, was he not? A.—I don't know how to answer that, because it is not within my own knowledge.

By Mr. Lewin:

Q.—Don't the minutes on that occasion show this, Dr. Macatee?

Mr. Leahy:—What meeting?

Mr. Lewin:—July 12, 1937.

“Dr. McGovern stated that he requested the various county medical societies in Virginia and Maryland, within ten miles of the District of Columbia, to send him a list of their membership. He was not very successful by letter and intended to contact the secretary personally. He added there were a few physicians practicing medicine in the District of Columbia who were on the rolls of the Society. The Society's office was busy at the present time checking the list of physicians and surgeons as classified in the newest telephone directory and the Commission on Life Insurance has been approached to obtain a list of all associates in the District of Columbia.

Doesn't that appear? A.—It does.

Q.—Doesn't that rather indicate that the committee itself was the one that was seeking applicants for approval, for the approved list, and not waiting for applications to be made to it.

Mr. Leahy:—Objected to as argumentative.

THE COURT:—Sustained.

By Mr. Lewin:

Q.—So, would you say now that the failure of Group Health Association to apply formally was any reason for not including it on the approved list? A.—That was still a good reason, though not the controlling reason.

Q.—What was good about it? A.—It was true.

Q.—You still say it was true, that one of the reasons for leaving Group Health off that list was because it didn't apply? A.—I said that was true. The controlling reason was we hadn't come to the point where we could approve or disapprove of it finally.

Q.—As a matter of fact, Dr. Macatee, wasn't it true that Group Health Association had made more of an application to you for that purpose than any of these other people who had been approved?

Mr. Leahy:—Objected to as argumentative.

THE COURT:—I didn't get it.

Mr. Lewin:—I asked him if Group Health Association hadn't made more of an effort to get on the approved list than these others.

THE COURT:—I think the evidence here shows what if anything they had done.

By Mr. Lewin:

Q.—Let me see if I can make this more clear. As a matter of fact, hadn't Dr. Brown said he was anxious to go along with the District Medical Society, prior to July 12, 1937? A.—That may have been one of his statements at the meeting.

Q.—And hadn't Mr. Penniman said in substance that same thing; that he was anxious to go along with the Medical Society and have your approval? A.—He may have said it.

Q.—Now, when you acted as spokesman on July 26, 1937, in the meeting with the Group Health Association trustees, I think you said that the meeting's minutes herein correctly reported that meeting, did you not; that was the meeting of July 26? A.—That statement was extemporaneous and, as transcribed, ran along with my general thought that I wished to express therein.

Q.—Didn't you say this to the Group Health trustees at that time:

"The principal difficulty that we are facing at the present time also is the knowledge of certain members of the District Medical Society have been approached with a view to serving certain organizations in a medical capacity and professional capacity"; and then, skipping a little:

"There is another provision which prohibits members of the Medical Society from lending their assistance to any corporation, group or individual under a contract until the practices and purposes of the organization have been approved by the Medical Society" et cetera.

You said that?

A.—Yes.

Q.—Wasn't this the other provision, this section 5, under which this approved list went out on July 29? A.—I don't know whether it was section 5 or section 2.

Q.—Isn't section 5 the one that prohibits members of the Medical Society from lending their services to any corporation, group or individual unless the practice and purposes have been approved? A.—Yes, that is the provision of section 5.

Q.—Then you were calling section 5 to the attention of the Group Health Association as early as July 26, 1937? A.—Yes.

Q.—You were calling their attention to it in connection with the information you had that Group Health Association was seeking a staff and had approached members of the Medical Society? A.—Obviously.

Q.—Is that right? A.—Yes.

Q.—Now, on July 27, isn't it correct, that the resolution to send the so-called white list to the members of the Medical Society of the District of Columbia was amended so that it would be sent to all the hospitals as well? A.—If the record shows so.

Q.—Aren't you familiar with that record? A.—No, not that familiar.

THE COURT:—There isn't any question about that, is there?

Mr. Leahy:—No, whatever it was; I know there was such a provision.

The Witness:—Yes, that states so in the minutes.

By Mr. Lewin:

Q.—That amendment was adopted on July 27? A.—Yes.

Q.—Now, on July 29, the so-called white list was issued for the first time? A.—I have heard evidence here to that effect.

Q.—Wasn't it sent out with two letters dated July 29, signed by the Secretary of the District Medical Society? A.—There appears to be such a letter.

Q.—And didn't the first of these letters read as follows:

"Dear Doctor:

"It may have come to your attention that there is an organization or organizations that are interested in gaining medical personnel. Your attention is called to Chapter IX, Article 4, Section 5 of the Constitution,"

quoting it in full.

Isn't that what it says? A.—Yes.

Mr. Leahy:—It says more than that.

Mr. Lewin:—Yes, it does:

"You are particularly urged to submit to the C. C. & I. N. Committee, pursuant to the Constitution, any and all contracts, written or verbal, under which you may contemplate giving your services?"

A.—It says that.

Q.—That letter which carried the white list with it refers to an organization or organizations that are interested in gaining medical personnel, does it not? A.—Yes.

Q.—Would you say that one of those organizations was Group Health Association? A.—Presumably.

Q.—So that whether it was directed to Group Health Association on July 12, or not, it was plainly directed to Group Health on July 29, 1937, the first time it went out? A.—That among others.

Q.—Now, at this very meeting on July 29, didn't you make that fact abundantly clear? Didn't you say this with regard to Group Health Association (handing witness minutes and indicating)?

"It was his impression, gained from contact with certain individuals, that they are highly intelligent people who have profoundly studied this subject, who are aware of all the social currents flowing through the country with respect to the relation of the medical profession and the people. They are aware of what has been done elsewhere and the results."

Did you say that or words to that effect? A.—My answer is that these minutes, taken down in longhand, had been shown not to express my thoughts so often that I hesitate to say they are, or that I did say that; but that was my opinion.

Q.—That was your opinion, and you have no reason to doubt you said it? A.—Correct.

Q.—When you were talking about "these people," weren't you talking about the sponsors of Group Health Association? A.—Yes.

Q.—And didn't you say:

"My feeling is that this is a group of responsible, honest, rather public-spirited people, who are undertaking to do something for the benefit of their associates in office. They are convinced and have secured what they call competent legal advice that they are on secure legal ground. They have by reason of their knowledge of similar projects elsewhere become convinced that wherever such organizations spring up they almost consistently receive the antagonism and the animosity of the local medical profession."

Didn't you say that? A.—Probably.

Q.—And when you were speaking of these "projects" weren't you referring to the Ross-Loos Clinic and other prepayment plans such as that? A.—Presumably.

Q.—Didn't you say also:

"Dr. Macatee added that he was of the opinion that their desire to avoid publicity in this matter was due to their knowledge of that fact?"

A.—Probably.

Q.—And by that didn't you mean the reluctance on the part of the Group Health people to open their doors to give you the contract with H. O. L. C. was due to the fact that they knew by reason of their knowledge of "similar projects elsewhere . . . that wherever such organizations spring up they almost consistently receive the antagonism and animosity of the local medical profession." Isn't that what you meant? A.—I think that is why they proceeded with their organization without our cooperation and advice before they asked for it.

Q.—And you seemed to feel that they were somewhat reasonable, knowing of the antagonism of the local medical society, in being a little cautious in putting all their information in your hands? A.—Yes.

Q.—Didn't you say this, following your discussion of Group Health Association, and as part and parcel of it:

"Dr. Macatee added that there is now available a list of corporations and organizations and persons employing physicians in a contractual relationship, prepared under provisions of the constitution and by-laws. He urged the members to take the list and examine it carefully and familiarize themselves with the contents."

Did you say that? A.—Yes.

Q.—And when you urged this examination of the list, and urged the members to familiarize themselves with the content, weren't you referring to this approved list issued July 29? A.—Yes.

Q.—Weren't you calling attention to its contents in connection with their attitude toward Group Health Association? A.—Yes, because the adoption of the white list had been on account of our experience in another matter, and we finished up that business in order to save us further headaches of the same sort.

Q.—Is this also the fact too: that after you talked that way, Dr. Sprigg reread a recommendation of the Executive Committee which was adopted?

Mr. Leahy:—What date is that?

Mr. Lewin:—July 29, 1937.

The Witness:—Yes.

By Mr. Lewin:

Q.—And didn't that resolution have to do with Group Health Association? A.—It did.

Q.—And then didn't the Secretary say, without any other subject matter intervening between Group Health and what he said, this:

"The Secretary stated that it was the duty of the Society's office to fulfil instructions from the Executive Committee to supply each member of the Society with a copy of the approved list that had been prepared, pursuant to Chapter IX, Article IV, Section 5 of the constitution. He pointed out that they were being mailed by registered mail. He announced that any member wishing to secure his list tonight could do so by applying at the Secretary's office and signing for same, which would aid in the distribution?"

A.—And the two statements had no connection with each other.

Q.—Although one follows the other? A.—The minutes are never subdivided to show divisions of subjects.

Q.—Was there any subject matter that intervened between the matter concerning Group Health Association and this matter? A.—Nothing appears in the minutes, but it might very well be and appear that taking up another item the Secretary said thus and so.

Q.—But you don't know about that? A.—No.

Q.—Mr. Leahy went over with you, I believe, the letter which the defendant Sprigg prepared in the fall of 1937, addressed to each one of the hospitals: am I right? A.—I can't give direct testimony about that, because I wasn't present at the meeting when this thing was discussed.

Q.—Didn't that letter start off by calling attention to this section 5?

Mr. Leahy:—The witness said he had no knowledge of it.

Mr. Lewin:—I know he said that, but the Court has indicated that we may read portions of the minutes.

THE COURT:—Yes, you may read them, but if the witness says he has no knowledge on the subject he can't testify to it.

The Witness:—If you put the letter before me I can say "I suppose that might be the letter," but I wasn't present when it was presented and considered.

By Mr. Lewin:

Q.—You were present on Nov. 3, 1937? A.—I think I was not.

Q.—Didn't you testify this morning with regard to the resolution of the defendant Willson, seconded by the defendant Christie? A.—I couldn't have testified as a direct witness, because I wasn't present on that occasion.

Q.—I ask you whether that resolution, which was certainly introduced again through your testimony, whether that resolution didn't say that the District Medical Society had an apparent means of hindering the successful operation of Group Health Association if it could prevent the doctors from being received in the local private hospitals, and then didn't the resolution refer directly to section 5, the same section adopted in March, and under which the white list went out in July? A.—I have no direct knowledge of that document; I would have to appeal to the record.

Q.—Let me come back to that meeting which you had with the Group Health trustees on July 26. You remember that? A.—Yes.

Q.—Isn't it true that at that meeting you quoted somewhat from the principles of ethics? A.—Yes.

Q.—Did you follow that up by pointing out that they might have difficulty in having and getting consultations? A.—Yes.

Q.—And didn't you point out that they might have difficulty in getting hospital accommodations, because of the principles of ethics, medical ethics? A.—I am not clear about that.

Q.—Wasn't one of the principles of medical ethics, to which you directed their attention, certain criteria for making contract practice ethical? A.—Yes.

Q.—And didn't one of them include this "free choice of physicians"? A.—Yes.

Q.—Now, isn't it true that in June 1937 the American Medical Association had amended its principles of ethics so as to include what it thought was a definition of "free choice of physicians"? A.—Yes.

Q.—And isn't it true that you failed to bring that definition to the attention of the Group Health representatives when you met with them? A.—I did fail to bring it to their attention.

Q.—Didn't you consciously fail to do so? A.—I did.

Q.—And because you wanted to withhold from them this more liberal definition of "free choice"? A.—No, the record will show that it was withheld because it was ambiguous, had just been adopted; we didn't know the purport of it.

Q.—And isn't it true that because it was ambiguous, you refrained from giving them that information? A.—I did.

Q.—But tried to leave them with the impression that this prohibition against free choice was a clear and unambiguous thing? A.—You are asking me now to recall motive?

Q.—I am asking you whether that was not your intent to withhold from them this recent amendment to the principle of free choice, and to leave them with the impression that contract practice was condemned because of a clear meaning of free choice? A.—If you want the best of my recollection I will say that I did not have any such intent, and to the best of my recollection I discovered this newly adopted item after the thing.

Q.—Dr. Macatee, weren't you present at the House of Delegates in Atlantic City in the early part of June, when this very amendment pertaining to free choice of physicians was enacted? A.—I was present at the meeting but I might not have been present at the session; more likely I was otherwise engaged at the time.

Q.—Is it your thought that you forgot this on July 26? A.—Reading back on the record, I think I forgot all about it.

Q.—But you didn't forget it on July 27, the very next day?

A.—Naturally, I would think over what I had said, trying to summarize what I had said extemporaneously and, looking over it, see what I had omitted, came across this thing and brought it to the attention of the Executive Committee.

Q.—Didn't you bring this to the attention of the Executive Committee one day after this meeting with the representatives of Group Health Association?

"Dr. Macatee, in continuing, read an excerpt from the latest issue of the principles of medical ethics of the American Medical Association, having to do with the definition of free choice of physicians, as follows:

"The 'free choice of physicians,' as applied to contract practice, is defined to mean that degree of freedom in choosing a physician which can be exercised under usual conditions of employment between patient and physician when no third person has a valid interest or intervenes. The interjection of a third party who has a valid interest or who intervenes does not per se cause the contract to be unethical."

Q.—That would apply, would it not, to Group Health Association? A.—No.

Q.—Wouldn't that have some reference to Group Health? A.—No, because the reference is to constituent or component units, local associations or societies.

Q.—Doesn't it say that the "interjection of a third person who has a valid interest between patient and physician does not per se cause the contract to be unethical"? A.—It does say so there.

Q.—And doesn't it define a "valid interest" as one where, by law or necessity, a third party is legally responsible either for cost of care or for indemnity, and doesn't it supply the definition of "intervention" as the voluntary assumption of partial or full financial responsibility for medical care? A.—It does.

Q.—And wouldn't that definition cover Group Health Association as one who intervenes? A.—Under the law of necessity?

Q.—No, not under the law of necessity. It says "voluntary assumption: voluntary assumption of partial or full financial responsibility for medical care." Wouldn't that fit Group Health Association exactly? A.—You will have to apply the definition.

Q.—And then doesn't it continue: "Intervention shall not prescribe,"—I guess that means forbid; "endeavor by component or constituent medical society,"—I guess that means members of the A. M. A., doesn't it? A.—Yes.

Q.—"To maintain high quality of service rendered by members serving under approved sickness service agreement between such societies and government boards or bureaus and approved by the respective society." A.—That is the controlling phrase there.

Q.—In other words, when the local society does it and approves it that throws out this "free choice of physicians"? A.—Yes.

Q.—You get free choice of physicians when the local society approves it, but you may not have such free choice when something like Group Health does it, is that it? A.—I will have to leave it to you to interpret.

Q.—Doesn't this follow immediately afterward:

"The ambiguity of the situation was immediately apparent.

"Dr. Macatee said that he certainly did not read this at the time of the meeting with the H. O. L. C. unit. He did, however, read on that occasion extensively from the principles of medical ethics under which the medical profession is bound, showing that the project as at present constituted could not be expected to be approved by the Medical Society of the District of Columbia, the local unit of the American Medical Association."

Is that right? A.—Yes.

Q.—So at that time you had enough information to be very definite that Group Health could not go on your approved list, didn't you? A.—That was my opinion.

Q.—And that was July 27, 1937? A.—Yes. I told them so on the 26th.

Q.—About two weeks after the white list was approved and two days before it issued? A.—That is the way the dates fall.

RE-DIRECT EXAMINATION

By Mr. Leahy:

Q.—I want to ask you to identify this letter of Nov. 21, 1938. I don't believe that was offered in evidence. I will ask you if you can identify that as one which you received from Dr. Kerr? A.—Yes.

Mr. Leahy:—This letter is Nov. 21, 1938, on the stationery of Dr. Harry Hyland Kerr, 1744 N Street Northwest, Washington, D. C.:

"DEFENDANTS' EXHIBIT 46

"Dear Dr. Macatee:

"The Senior Surgical Staff of the Garfield Memorial Hospital unanimously recommend to the Advisory Committee and to the Board that courtesy surgical privileges be denied to Dr. R. E. Selders.

"The Surgical staff believes that, though Dr. Selders has a competent post-graduate degree in Surgery, his experience has been limited to one year as resident in a non-teaching hospital in a small Massachusetts city, and is not sufficient to qualify him to take care of the surgery that may arise among 2,000 or 3,000 people.

"Sincerely yours,

H. H. Kerr
"for the Staff."

By Mr. Leahy:

Q.—Doctor, your attention was also called to a questionnaire. Do you recall that line of questions, from Dr. Warfield's committee? A.—I recall Mr. Lewin's questions regarding it.

Q.—Did you ever hear of the questionnaire from Dr. Warfield's committee before you were asked about it here? A.—No, sir.

Q.—Was any questionnaire ever received by the staff of Garfield Hospital? A.—Not to my knowledge.

Q.—Was any questionnaire ever submitted, to which answers were made, coming from that committee, to the best of your knowledge? A.—Not within my knowledge.

Q.—You were also asked with reference to certain language which was used by somebody in connection with the approval of Dr. Selders, or the attitude of Garfield Memorial Hospital toward the District Medical Society, and that answer which was stated in a letter, I think, or in a resolution to the effect that you would be aiding and abetting Group Health Association: do you recall that language; that series of questions asked on cross examination in this record? A.—No, Mr. Leahy, I don't quite get that.

Mr. Leahy:—That was contained I think in a statement which was shown you with Dr. McGovern's report or recommendation. Could I see that?

Mr. Lewin:—Yes, indeed.

Mr. Leahy:—It was admitted as U. S. 499: it is a letter from Dr. McGovern to Mr. Aspinwall, dated Sept. 17, 1937.

"The following is the recommendation of the Advisory Committee of the Medical Staff to the Board of Directors of Garfield Memorial Hospital:

"Pending the settlement of the question raised as to the ethical status of Group Health, Inc., and pending further study of the professional qualifications of Dr. Raymond E. Selders, that he be not granted courtesy staff privileges at the Garfield Memorial Hospital, except of course, in a real emergency."

"The reason prompting this recommendation is the fact that Group Health Association, Inc., a lay corporation is considered unethical by the Medical Society of the District of Columbia, and its legality is being questioned. Dr. Selders has been hired by Group Health Association as its surgeon. It is the opinion of the Advisory Committee that if the Garfield Hospital allows Dr. Selders courtesy privileges that it would be placed in the light of aiding and abetting Group Health Association, Inc."

The Witness:—I remember that letter now, yes.

Q.—Now, do you recall to what the Advisory Committee referred when it used the phrase "aiding and abetting Group Health Association"? A.—I think that answer can best be stated by the Board of Directors, acting upon that, decided that they would not admit Dr. Selders to courtesy privileges because of the alleged illegality of the outfit; and that to have done so the hospital would be put in a position of aiding and abetting an illegally operated corporation.

Q.—And is that what operated to the dictation of that letter at that time? A.—That letter could not be considered as a dictation; it was merely a recommendation to its board of directors.

Q.—You will also remember that you were asked whether or not your definition of an "emergency" had been used in other hospitals in the city. I want to ask you whether when you drew up that definition for Garfield you had in mind other hospitals in the city of Washington? A.—I had in mind nothing except that nobody would be excluded from the hospital if they came there in an emergency and were without the attendance of a doctor on the courtesy staff, so that the hospital would not be in the position of excluding anybody or being unfair or doing harm to anybody; and it would be so that everybody would be permitted to attend to a real emergency.

Q.—Did you give instructions to anybody to send out your definition of an "emergency" to the other Washington hospitals? A.—I never had any idea that it would go beyond the point of our own institution.

Q.—Do you recall whether,—and I want to see if I can straighten this out in just a minute—in the minutes of July 12, 1937. Do you recall whether Dr. Verbrycke had submitted a report while on the Economics Committee of the District Medical Society or the Chairman thereof? A.—Yes, I have seen that report somewhere. It was a number of pages, and I remember seeing it; I don't remember the contents.

Q.—June 21 was the date that was submitted, was it not? A.—I don't know.

Q.—All right, now, was Dr. Verbrycke, on July 12, in office in any committee at all in the District Medical Society? A.—He was not.

Q.—Your attention is directed now to Dr. Verbrycke's letter which was made part of these minutes. Doesn't it show and read:

"I have no longer any official status, but I am deeply interested in the entire subject, and since I was the author of the original report which has been approved by the Executive Committee, I ask your leave to submit some further thoughts with the hope that they may be of some slight help."

Is that correct? A.—Yes.

Q.—Do you recall having looked at the opening sentence of that Verbrycke letter wherein he said he had no longer any official office and his reference to the report which he says has been approved in principle by the Executive Committee? A.—Yes.

Q.—Why? A.—I thought you only asked if I remembered looking at the opening remarks in the letter.

Q.—Yes. Now, having done that, do you recall what it was that was approved by the Executive Committee? A.—He refers in his letter to his report of June 21.

Q.—Will you look to see if anywhere in the minutes you find anything indicating what action the Executive Committee took with reference to this particular letter? Kindly look at the top of page 5, and see if it refers to Dr. Verbrycke's letter. A.—I think it does.

Q.—What happened to it?

Mr. Lewin:—Is he going to read from the minutes?

The Witness:—I made a motion to the effect that the supplementary report of the subcommittee be received and be held on the table for future consideration, after the report of the subcommittee. That was seconded and adopted.

Q.—Do you recall now whether at any other time the report was ever taken off the table for action? A.—I don't recall; that is my independent memory.

Q.—Doctor, I want to ask you if there is any principle of medical ethics whatever which has anything to do with hospitals; their maintenance or their administration, so far as the medical profession is concerned.

Mr. Lewin:—Objected to. The principles of ethics are in evidence; they have been read, and speak for themselves. This is not a reference to them.

The Court:—I think so.

Mr. Leahy:—Well, I didn't want to read them again if I could avoid it.

The Court:—Well, you are not going to read them, are you?

Mr. Leahy:—No, I am not going to read them.

By Mr. Leahy:

Q.—Doctor, I want to show you the minutes of May 12, a special meeting of the Executive Committee of the Medical Society of the District of Columbia, held at half past seven in the evening. Will you kindly look at these and tell us whether or not you can recognize them as the minutes of that meeting? A.—These look like the minutes.

Q.—Do they have anybody's signature on there that you recognize? A.—That is the signature of Dr. Conklin, the secretary.

Mr. Leahy:—I want to offer in evidence these minutes of the meeting of May 12, and just read them briefly to the jury. Will you kindly mark them?

By Mr. Leahy:

Q.—Is that this white list that came out on July 12? A.—Yes.

Q.—This was May 12: Doctor, so far as you know, had anybody in the District Medical Society ever heard about G. H. A. on May 12, 1937? A.—Not to my knowledge.

Q.—Had you? A.—I had not.

Q.—Were you on the Executive Committee on May 12, 1937? A.—Yes.

"Dr. F. X. McGovern, Chairman of the Subcommittee to prepare an approved list in accordance with the provisions of Chapter IX, Article IV, Section 5 of the constitution was recognized.

"The various items were considered seriatim as follows:

"1. All member of the Medical Society of the District of Columbia.

"2. Medical staffs of all hospitals, institutions and clinics, each member of which has been approved by the Medical Society of the District of Columbia, and/or the American College of Surgeons, the American Medical Association, the American Hospital Association, in the District of Columbia or within ten miles thereof.

"It was agreed to amend recommendation No. 2 as follows:

"Medical Staffs of all hospitals, institutions and clinics, each member of which has been approved by the Medical Society of the District of Columbia."

"3. The United States Government, medical personnel on duty in the District of Columbia or within ten miles thereof, namely, i. e., the United States Army, Navy, Public Health Service, and the Veterans Administration.

"4. The Health Officer and attached medical personnel.

"5. Membership of the District Medical Society.

"6. Membership of the Homeopathic Medical Society.

"7. Members of the Montgomery County (Md.), Prince Georges County (Md.), Fairfax County (Va.) and Arlington County (Va.) medical societies, who reside within ten miles of the District of Columbia.

"8. Members of the Alexandria Medical Society.

"9. The following compensation clinics.

"1. Washington Industrial Accident Clinic.

"2. Washington Medical Building Workmen's Clinic.

"3. Northwest Insurance Clinic.

"4. Union Market Workmen's Compensation Clinic.

"5. Market Compensation Accident Clinic.
"6. Washington Compensation Accident Clinic.
"7. Washington Insurance Clinic.
"8. Harry M. Lewis Clinic.
"9. First Aid Station.
"Discussion on the recommendation No. 9 was participated in after the reading of the other reports.
"10. All medical personnel connected with the Federal or municipal government within the District of Columbia or within ten miles thereof."
"Dr. Daniel Borden was of the opinion that this should not be included.
"Others could see no objection to this subdivision.
"11. Membership of the Medico-Chirurgical (Colored Medical Society).
"12. Membership of the Robert T. Freeman Dental Society (Colored Dental Society). In the consideration of item 9, Dr. W. M. Sprigg stated he thought the clinic should be listed temporarily."

By Mr. Leahy:

Q.—Now, Doctor, these clinics, they appear in the approved list of July 12? A.—I think so.

Q.—Were these clinics of long standing in the District of Columbia or otherwise? A.—Ever since the passage of the industrial compensation law.

Q.—And had they or had they not, those clinics, been before the District Medical Society on their purpose, maintenance and operation been or been not approved? A.—They had been.

Q.—The others mentioned in the approved list refer to just what the list states, the hospitals, et cetera, in the District of Columbia, and their staffs, and those within ten miles of the District. I am not going to take the time to read, refer back to the minutes of July 12, but I ask you, Wasn't it then and there stated that that list was incomplete, that this was not a complete list? A.—It was.

Q.—As a matter of fact, was the Washington Sanitarium in Takoma Park on that list? A.—It was not.

Q.—Were there doctors practicing here in the District of Columbia who were not on that list? A.—Many.

Q.—Did it or did it not purport to be a complete list? A.—It did not purport to be a complete list.

Q.—And whether G. H. A. discovered that the Principles of Medical Ethics of the American Medical Association had been amended in June meeting of 1937, or not, did G. H. A. ever seek approval of the Medical Society?

Mr. Lewin:—Wait a minute; that calls for a conclusion.

THE COURT:—You mean did G. H. A. ever formally ask approval?

Mr. Leahy:—Yes.

THE COURT:—If you want to ask him whether they ever made formal application, he may answer that.

By Mr. Leahy:

Q.—I will adopt the Court's question. Did the G. H. A. ever make to the District of Columbia Medical Society a formal application for approval? A.—It never did.

Q.—There is one other thing. Under cross-examination you had your attention directed to the minutes of July 29. You made some answer in substance in effect to the end that the minutes had no subdivisions as to topics. Do you recall that. A.—I do.

Q.—And your attention was directed to the reading of one entry which follows another entry in those minutes? A.—I recollect that.

Q.—And your attention was directed to the minute with the statement that there was no information intervening between these minutes. I will ask you if the minutes show a line between those paragraphs, showing that there was something transpired in there? A.—There is a line indicating a division; a typed line.

Mr. Lewin:—Wait a minute. What is that?

Mr. Leahy:—A typed line.

Mr. Lewin:—Is there any subject matter or discussion that appears between the resolution with regard to Group Health and this statement of the secretary?

THE COURT:—Let the jury see it.

Mr. Leahy:—Yes. Let it be passed to the jury so they may see it.

(Thereupon the minutes were passed among the jurors for inspection.)

THE COURT:—Is that all?

Mr. Leahy:—Yes. And I ask the same permission with respect to these minutes. If the jury will also look at the other pages to see where the breakdown comes.

Mr. Lewin:—There is another page in the minutes I would like the jury to look at also.

THE COURT:—Yes, you may do that.

Mr. Lewin:—I would like the jury to consider these three paragraphs on this page, particularly the third one.

Mr. Leahy:—You mean read them over?

Mr. Lewin:—I would like to have them look over this statement of Dr. Macatee, and the subject matter of this here (indicating).

(To be continued)

MEDICAL LEGISLATION

MEDICAL BILLS IN CONGRESS

Change in Status.—S. 1230, the hospital construction bill, has been referred to a subcommittee of the Senate Committee on Education and Labor for consideration. The following Senators compose the subcommittee: James E. Murray, Montana; Allen J. Ellender, Louisiana; Berkeley L. Bunker, Nevada; Robert M. LaFollette Jr., Wisconsin, and Robert A. Taft, Ohio. It is understood that a hearing on the bill is contemplated, but no date has been set.

STATE MEDICAL LEGISLATION

Connecticut

Bills Introduced.—S. 1032 and H. 2400, to amend the laws relating to the practice of chiropractic, propose that "Chiropractic physicians shall be subject to the rules and regulations that govern other physicians in the making and filing of certificates of death." S. 2347 and H. 1588 propose that a hospital maintaining ambulance service must render such service to any person without regard to financial ability to pay, "the actual need for the ambulance to be determinative." The bill proposes that a hospital maintaining such a service must keep a qualified driver on its premises or in the immediate vicinity at all times. H. 1814 proposes that, if it appears necessary to the coroner or to the medical examiner to have a chemical or microscopic analysis or other scientific investigation made for the purpose of ascertaining the cause of death of the person on whose body he is holding an inquest, he shall report to the state's attorney, who shall order such analysis or investigation to be made at state expense by the state health department laboratory or a laboratory certified by the state health department.

Massachusetts

Bill Introduced.—H. 2301 proposes to authorize the formation of medical service corporations to operate nonprofit medical service plans whereby the cost of medical service furnished to subscribers to said plan and their dependents is paid for by the corporation to physicians agreeing to render such services.

Minnesota

Bill Introduced.—S. 1383 memorializes the governor to request the state medical association and the state bar association to study the Minnesota laws relating to the commitment of mentally defective and deficient persons and to report their findings and recommendations to the next session of the legislature.

Pennsylvania

Bills Introduced.—S. 480 proposes to require the department of health to furnish all state and state-aided hospitals free of charge the vaccines and serums used in the Pasteur treatment of persons bitten by dogs. The hospitals concerned are to furnish and inoculate free of charge all persons bitten by dogs in the commonwealth with such serum or vaccine. H. Res. 57 proposes to authorize the speakers of the house of representatives and of the senate to appoint a joint committee to investigate the maintenance, operation and conduct of all state hospitals in the commonwealth. H. 1048 proposes to enact a separate chiropractic practice act and to create an independent board of chiropractic examiners to examine and license applicants for licenses to practice chiropractic. The bill states that "Chiropractic is the examination of the human spine by observation, palpation or x-ray and the adjustment of any or all misalignments of vertebrae or adjacent bones or tissues through

the use of the hands." H. 1094 proposes to require the registration with and the securing of permits from the state board of pharmacy by persons, copartnerships, associations and corporations engaged in the manufacture, producing and dealing in drugs and medical supplies. H. 1099 proposes a procedure for the reimbursement by the state of hospitals treating indigent persons injured in motor vehicle accidents. H. 1118 proposes to enact a separate chiropody practice act and to create an independent board of *chiropody examiners to examine and license applicants for licenses to practice chiropody*. The bill defines chiropody as "the diagnosis of foot ailments and the

practice of minor surgery upon the foot limited to those structures of the foot superficial to the inner layer of facie of the foot, the palliative and mechanical treatment of deformities and functional disturbances of the feet and the making of models of the foot and toes or any one or more of such activities." The bill proposes that chiropody is not to include treatment of communicable or constitutional diseases of the bones, ligaments or muscles of the feet or the performance of any operation on the bones, ligaments, muscles or tendons of the feet involving the use of any cutting instrument or the use of any anesthetic other than local.

OFFICIAL NOTES

RADIO BROADCASTS

The next three programs to be broadcast in the series "Doctors at Work" are as follows:

- April 23. The Big Red Schoolhouse.
- April 30. Baby's Birthright.¹
- May 7. So Mothers May Live.¹

1. This program will be broadcast at 10:30 eastern daylight saving (9:30 eastern standard) time (9:30 Chicago daylight saving, 8:30 central standard, 7:30 mountain standard, 6:30 Pacific standard time).

The program is scheduled over the Blue network of the National Broadcasting Company Wednesdays at 10:30 p. m. eastern standard time (9:30 central, 8:30 mountain, 7:30 Pacific time).

Verify the time by reference to local newspapers.

Tickets are available for each broadcast. Address the Bureau of Health Education, American Medical Association, 535 North Dearborn Street, Chicago. Tickets are free, but a stamped, self-addressed envelop should accompany requests.

WOMAN'S AUXILIARY

Florida

A joint meeting of the state auxiliary board and the state advisory committee was held at Daytona Beach recently. Mrs. Gordon H. Ira, president, presided. Dr. J. Sam Turberville, president of the Florida Medical Association, was guest speaker. Dr. Gordon H. Ira, chairman of the association's advisory committee, also addressed the meeting.

Illinois

The Aux Plaines branch met recently. Twenty-two new members were reported and thirty-two prospects. Seventy-five dollars was voted for *Hygeia* subscriptions. Dr. Frederick Falk spoke on "Maternal Welfare."

The Will-Grundy County auxiliary met in the home of Dr. and Mrs. W. C. McSweeney in Joliet, recently with twenty members present. Sister Hilda of St. Joseph's Hospital spoke on hospital routine and management. Mrs. Harry Dooley, president of the state auxiliary, discussed the "Benevolence Fund."

The first regular board meeting of the year was held at the Palmer House in Chicago, November 9. The president, Mrs. Harry Dooley, presided and thirty members were present. Mrs. V. E. Holcombe, national president, was the honored guest. In her address she stressed, in addition to *Hygeia*, the national publication, the *Bulletin*, the membership drive and the Benevolence Fund. Mrs. Holcombe stressed the importance of carrying out the objectives for the year. The president-elect, Mrs. Harry Otten, described problems encountered in forming new county auxiliaries. Mrs. H. B. Henkel, chairman of the Committee on the Benevolence Fund, explained the objectives of the fund. Mrs. E. M. Egan, chairman of the Hygeia committee, told of the drive for subscriptions.

Iowa

The Woman's Auxiliary to the Dallas-Guthrie Medical Society met recently at Panoca. Mrs. E. T. Warren, state president, discussed national auxiliary news, with emphasis on the national organ, the *Bulletin*. Mrs. C. R. Osborn was appointed to report on all legislation of interest to the medical profession at the January meeting.

A social sponsored by the Woman's Auxiliary to the Polk County Medical Society was held at the Des Moines Club, recently. About 175 physicians and their wives were present; music was furnished by talent from Drake University.

Members of the Woman's Auxiliary to the Pottawattamie County Medical Society met in Council Bluffs recently. Mrs.

E. T. Warren, state president, was guest speaker. It was announced that members would sew for the Red Cross once a month. Preparations were made to distribute Christmas baskets and clothing to two needy families. The program consisted of talks on the "Cause, Results and Treatment of Poliomyelitis," by Mrs. Grant Augustine and Mrs. Isaac Sternhill.

Texas

The Dallas County auxiliary was active during the past summer assisting the Red Cross. A request for help was responded to by 50 per cent of the members of the auxiliary. One full class and another half class of wives of physicians took the summer course in bandage rolling and made numerous articles of clothing. The auxiliary also contributed \$50 to the Red Cross fund. Auxiliary members taught a six weeks' course in home hygiene. The auxiliary will sponsor, in conjunction with the Dallas County Medical Society, an educational medical booth at the state fair. The exhibit material is being sent by the American Medical Association and the booth will be in charge of the Hygeia committee of the auxiliary.

At a recent meeting of the auxiliary to the Johnson County Medical Society Mrs. S. H. Watson, Waxahachie, past president of the state auxiliary, spoke on "Ethics for Doctors' Wives." Mrs. Watson is a member of the national auxiliary board and chairman of archives.

At a recent meeting of the auxiliary to the Kerr-Kendall-Gillespie-Bandera Counties Medical Society twenty-seven members and one guest were present. Yearbooks were issued and a preview of the year's work was presented by the president. The auxiliary voted to sponsor the state health essay contest in Gillespie County schools and to give prizes.

The officers of the Harris County auxiliary honored twenty-eight new members at a tea in September at the River Oaks Country Club in Houston.

The auxiliary to the Nalan-Fisher-Mitchell Counties Medical Society was organized recently at a meeting in Sweetwater.

The Washington County auxiliary held a meeting recently at which Mrs. A. H. Sinclair read a paper on "The American Medical Association Program."

The auxiliary to the Northeast Texas (Fifteenth) District Medical Society met recently in Texarkana. Speakers included Mrs. William Hibbits, president of the state auxiliary; Mrs. L. H. Lanier, president-elect of the Bowie-Miller auxiliary and Mrs. M. J. Johnson, vice president of the district auxiliary.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION AND PUBLIC HEALTH.)

CALIFORNIA

Flower Show.—The Los Angeles County Medical Association held its first spring flower show in the lounge of the association building April 16-17. The exhibit, which was open only to physician members of the association, was in charge of a committee composed of Drs. Samuel Ayres Jr., chairman, Robert B. Hope and Albert G. Bower, cooperating with Mr. Fred T. Bergstrom, horticulturist. A separate section in the display, devoted to flower arrangement, was open to members of the association, their wives and members of their office personnel. Prizes and ribbons were awarded.

Society News.—Dr. Morris Fishbein, Chicago, Editor of THE JOURNAL, will discuss "American Medicine on Trial" before the San Francisco County Medical Society, April 22. —The Los Angeles Surgical Society devoted its March 14 meeting to a panel discussion on acute perforated appendicitis with Dr. Verne C. Hunt as the moderator; the speakers were Drs. James Norton Nichols, E. Eric Larson and Hans E. Schiffbauer. —Hubert Scott Loring, Ph.D., assistant professor of biochemistry, Stanford University School of Medicine, San Francisco, discussed "Purified Viruses" before the Hollywood Academy of Medicine, March 13.

California Needs Interns.—The California State Personnel Board announces examinations for student and senior interns to fill current vacancies at various state institutions. Applications may be filed at any time during 1941 and will be rated as soon as they are received by the state personnel board. If a candidate's rating on education, experience and fitness is high enough to qualify him, his name will immediately be placed on the eligible list in accordance with his rating. The one year California residence requirement has been waived for these examinations. For senior intern the entrance salary will be \$50 a month and maintenance for self and family. For student intern \$25 a month and maintenance will be allowed.

COLORADO

Personal.—Dr. Millard F. Schafer, who just completed a postgraduate course at the University of Michigan, Ann Arbor, has been designated director of the city-county health unit of Colorado Springs and El Paso County succeeding Dr. Thomas D. Menser, who resigned to enter private practice in Trinidad.

Annual Spring Clinic.—The Mesa County Medical Society conducted its fourth annual spring clinic at the La Court Hotel, Grand Junction, April 6. Speakers included:

- Dr. Harry C. Hughes, Denver, Common Disorders of the Feet.
- Dr. Thomas E. Carmody, Denver, Some of the Newer Methods of Treating Sinus Pathology.
- Dr. Lyman W. Mason, Denver, Use and Abuse of "Sex" Hormones.
- Dr. Kenneth C. Sawyer, Denver, Surgery of the Biliary Tract.
- Dr. Alfred C. Callister, Salt Lake City, Plastic Surgery of Special Interest to the General Practitioner.
- Dr. George A. Unfug, Pueblo, X-Ray Differentiation of Gastric Carcinoma and Peptic Ulcer.
- Dr. William R. Tyndale, Salt Lake City, Practical Vitamin Therapy.

DISTRICT OF COLUMBIA

Annual Meeting of Hospital Society.—The fourth annual meeting of the Medical Society of St. Elizabeths Hospital will be held in Washington on April 26. Sir Willmott Lewis, Washington correspondent of the London Times, will be the principal speaker at the banquet.

Lectures on Psychoneurosis.—A course in psychoneuroses in general practice, consisting of two lectures, will be offered by the committee on postgraduate education of the Medical Society of the District of Columbia, Washington. Dr. Walter C. Alvarez, Rochester, Minn., will speak, April 21, on "Differential Diagnosis of Psychoneuroses" and Dr. Leslie B. Hohman, Baltimore, April 28, on "General Management of Psychoneuroses." A course in office surgical procedures was conducted March 17 and 24 with Drs. William Wayne Babcock, Philadelphia, discussing "General Surgery" and Isidor C. Rubin, New York, "Gynecologic and Genitourinary Surgery."

Personal.—Col. Harold W. Jones, M. C., U. S. Army, librarian of the Army Medical Library, gave the annual address before the Osler Historical Club of the Medical and Surgical Faculty of Maryland, March 11, in Baltimore. The subject of the address was "Medical Research and the Microfilm." —Harold H. Lund, former assistant to the director of alien registration for the Department of Justice, has been named managing director of the District of Columbia Tuberculosis Association. Mr. Lund for several years directed publicity for the Institute of Human Relations at Yale University School of Medicine, New Haven; he was also assistant research director of the White House Conference on Children in a Democracy in 1939.

IDAHO

Chief of Staff Twenty-One Years.—Dr. James L. S. Stewart was guest of honor at a dinner at St. Luke's Hospital, Boise, March 18, in recognition of his twenty-one years of service to the hospital as chief of staff. Dr. Stewart was the first to occupy the position, holding it continuously from 1920 until 1941. At the recent dinner he was made president emeritus of the staff and was presented with a wrist watch.

ILLINOIS

Birth Control League Changes Name.—The Illinois League for Planned Parenthood has been organized to replace the Illinois Birth Control League, newspapers announced, March 11. The adoption of a new name initiated an extension of educational and clinical programs throughout the state, it was said. Mrs. Stanley G. Harris, Chicago, is president. The newly organized group will continue supervision and aid of clinics already founded in eleven cities of the state by the Illinois Birth Control League. Eight of the clinics are in Chicago and others are in Alton, Centralia, Springfield, Champaign, Chicago Heights, Danville, Downers Grove, Evanston, Peoria and Springfield.

Chicago

Course on Toxicology.—The University of Chicago will offer a course on "Toxicology and the National Defense" during the quarter opening June 24, covering special hazards resulting from increased industrial production in connection with defense and with dangers of poisoning in actual warfare. Dr. Eugene M. K. Geiling, professor and chairman of the department of pharmacology, will direct the course.

Universities Cooperate in Symposium.—The University of Chicago and the University of Wisconsin have organized a joint symposium on the respiratory enzymes and the biologic action of the vitamins. The Wisconsin sessions, devoted to the respiratory enzymes, are planned for September 11-13. The meetings dealing with the vitamins will take place in Chicago on September 15-17, forming a part of the semicentennial celebration at the University of Chicago. The program is an attempt to coordinate the biologic action of the vitamins and the respiratory enzymes. The symposium is supported by the Wisconsin Alumni Foundation for the University of Wisconsin and by the Abbott Laboratories for the University of Chicago. Complete details may be obtained from Conrad A. Elvehjem, Ph.D., University of Wisconsin, Madison, or from Thorfin R. Hogness, Ph.D., University of Chicago.

INDIANA

Graduate Course.—The ninth annual postgraduate course at Indiana University School of Medicine, Indianapolis, will be held April 28-May 2. Clinics and round table discussions will make up the morning sessions while the afternoon periods will be given over to clinicopathologic conferences and didactic lectures. Participating will be:

- Dr. Louis Schwartz, director, Office of Dermatitis Investigation, U. S. Public Health Service, Washington, D. C.
- Dr. Howard Burnham Sprague, instructor in medicine, Harvard Medical School, Boston.
- Dr. Andrew C. Ivy, Nathan Smith Davis professor of physiology and professor of pharmacology, Northwestern University Medical School, Chicago.
- Dr. Robert C. Jamieson, professor of dermatology and syphilology, Wayne University College of Medicine, Detroit.
- Dr. Walter M. Boothby, professor of medicine and biochemistry, University of Minnesota Graduate School of Medicine, Rochester, Minn.

Society News.—Dr. Philip Lewin, Chicago, discussed "Low Back Pain and Sciatica" before the Fort Wayne Medical Society, Fort Wayne, March 18. —The Delaware-Blackford Counties Medical Society was addressed in Muncie, March 18, by Drs. Ramon A. Henderson and Gerald S. Young, Muncie, on "Treatment of the Acute Exanthemata." —Dr. George S. Bond, Indianapolis, addressed the Gibson County Medical

Society in Princeton, March 10, on "Hypertension: Clinical Symptoms and Treatment."—The Randolph County Medical Society was addressed in Winchester, March 10, by Mr. Howard Henderson of the American Hospital Supply Corporation; his subject was "Some Practical Aspects of Fluid Administration, Blood Transfusions, Blood Banks, Plasma Fusion and Plasma Banks."—Dr. Percy E. McCown, Indianapolis, discussed "Etiology and Treatment of Renal and Ureteral Calculi" before the Greene County Medical Society in Linton, March 13.—Prof. Henrik Dam, Biochemical Institute, University of Copenhagen, lectured recently at the Indiana University Medical Center, Indianapolis, on "Factors in Preventing the Blood from Leaving the Vascular System."—Dr. Wilson G. Smillie, New York, addressed a joint meeting of the Indianapolis Medical Society with the Dental and Dietetics Association, March 18, on "Education in Nutrition: Whose Responsibility?"

MARYLAND

De Lamar Lectures.—Dr. Charles N. Leach, Montgomery, Ala., of the staff of the International Health Division of the Rockefeller Foundation, gave the last in the recent series of De Lamar Lectures, March 18, at Johns Hopkins University School of Hygiene and Public Health, Baltimore. His subject was "Recent Studies on the Epidemiology and Control of Rabies." Other lecturers in the series were:

Dr. Virgil P. W. Sydenstricker, professor of medicine, University of Georgia School of Medicine, Augusta, Dietary Problems of the Southern United States.

Otto A. Bessey, Ph.D., associate in biologic chemistry and research fellow in pathology, Harvard Medical School, Boston, Morphological and Biochemical Defects in the Dietary Deficiency States.

George R. Cowgill, Ph.D., associate professor of physiologic chemistry, Yale University School of Medicine, New Haven, Conn., Nutritional Problems in Tropical America.

Dr. Edward H. Hatton, professor of pathology and bacteriology, Northwestern University Dental School, Chicago, Etiology of Dental Caries.

Dr. Max Theiler, Laboratories of the International Health Division, Rockefeller Foundation, New York, Studies on Poliomyelitis.

MASSACHUSETTS

Course on Industrial Hygiene.—The lecture and laboratory courses in industrial hygiene, ordinarily given in the academic year at the Harvard School of Public Health, Boston, will be offered in a special summer course running from May 1 through July. This change was made to meet the demand of the government services and of the defense industries for physicians and engineers trained in industrial hygiene. Details may be secured from the Secretary of the Harvard School of Public Health, 55 Shattuck Street, Boston.

Bust of Dr. Tyzzer.—A bronze bust of Dr. Ernest E. Tyzzer, George Fabyan professor of comparative pathology and professor of tropical medicine, Harvard Medical School, Boston, was recently presented to Dr. Tyzzer to be placed in his department. Dr. Cecil K. Drinker made the presentation at a luncheon honoring Dr. Tyzzer for his long service to the university. The bust was executed by Dr. Edward G. Deming, Detroit, a recent graduate of Harvard. Dr. Tyzzer graduated at Harvard in 1902 and joined the faculty the following year.

Society News.—The Boston Medical History Club was addressed, March 27, by James Walter Wilson, Ph.D., Brown University, Providence, R. I., on "Role of Art in Development of the Natural Sciences in the Renaissance."—Dr. Allen O. Whipple, New York, gave the third in a series of four Robert Dawson Evans Memorial lectures, March 28, in the Evans Auditorium, Boston, on certain splenopathies in relation to the vascular bed of the spleen.—Drs. Stanley Cobb and Mandel E. Cohen, Boston, among others, addressed the Massachusetts Psychiatric Society in Boston March 28 on "Anticonvulsive Action of Neoprontosil."

MICHIGAN

State Society Officers Re-elected.—At the recent annual session of the council of the Michigan State Medical Society the following officers were reelected to their respective positions: Drs. William A. Hyland, Grand Rapids, treasurer; L. Fernald Foster, Bay City, secretary; Roy Herbert Holmes, Muskegon, editor, and Mr. William J. Burns, executive secretary.

Meeting of Physicians and Druggists.—Dr. Virgil E. Simpson, clinical professor of medicine, University of Louisville School of Medicine, Louisville, Ky., was the principal speaker at a joint meeting of the Detroit Retail Druggists

Association and the Wayne County Medical Society, Detroit, March 10. His subject was "The Physician, the Pharmacist and the Pharmacopeia."

Medical Services Observe Anniversaries.—A banquet was held at the Statler Hotel, Detroit, March 26, to mark the first anniversary of Michigan Medical Service and the second anniversary of Michigan Hospital Service. The speakers were Alphonse M. Schwittalla, S.J., dean, St. Louis University School of Medicine, St. Louis, and Mr. James A. Hamilton, superintendent of the New Haven Hospital, New Haven, Conn., on medical economics.

Field Consultant in Obstetrics.—Dr. Russell R. de Alvarez, Ann Arbor, who has been conducting postgraduate courses in obstetrics for the Michigan State Department of Health, has been appointed field consultant in obstetrics for the department. He succeeds Dr. Clair E. Folsome, Ann Arbor, who resigned to become executive director of the National Committee on Maternal Health, Inc., in New York. Dr. de Alvarez graduated at the University of Michigan Medical School, Ann Arbor, in 1935.

MINNESOTA

Abortionist Sentenced.—Dr. Samuel R. Fraker, Minneapolis, pleaded guilty in the district court of Hennepin County to a charge of abortion, February 21. He was sentenced to a term of not to exceed four years in the state prison at Stillwater. The sentence was suspended on Dr. Fraker's plea that he was suffering from pernicious anemia and that he desired an opportunity to live with his daughter in another state. The plea was granted and the sentence was suspended for three years. In 1938 Dr. Fraker's license had been revoked for three years on a similar charge.

MISSISSIPPI

New Health Officials.—Dr. Maude M. Gerdes, formerly consultant in obstetrics for the Children's Bureau, Washington, D. C., has been appointed director of maternal and child health of the Mississippi State Board of Health at Jackson, it is reported.—Dr. William David May, formerly of Durant, has been appointed director of the state health department personnel training center at the Lauderdale County health department. He succeeds Dr. Robert L. Simmons, who has been made director of the Pearl River County health department in Poplarville.

MISSOURI

Society News.—Dr. John H. Peck, Oakdale, Iowa, discussed modern methods in the diagnosis and treatment of pulmonary tuberculosis before the St. Louis Medical Society, April 8, under the auspices of the St. Louis Trudeau Club. Dr. Fred T. Murphy, Grosse Pointe, Mich., presented "Reminiscences and Experiences in Military Medicine (France 1917-1918, Base Hospital Unit 21)" before the society, April 15.—Halsey J. Bagg, Ph.D., New York, discussed "Advances in the Experimental Study of Malignant Disease" before the Kansas City Academy of Medicine, April 18.

State Medical Meeting.—The eighty-fourth annual session of the Missouri State Medical Association will be at the Jefferson Hotel, St. Louis, April 28-30, under the presidency of Dr. Cyrus E. Burford, St. Louis. Out of state speakers will include:

- Dr. Russell L. Cecil, New York, Treatment of Chronic Arthritis.
- Dr. Roy Glenn Spurling, Louisville, Herniated Nucleus Pulposus.
- Dr. Clyde L. Deming, New Haven, Conn., Relation of Hypertension to Renal Disease.
- Dr. Meyer Bodansky, Galveston, Texas, Use of Laboratory Data in Clinical Medicine.
- Dr. Paul B. Magnuson, Chicago, Differential Diagnosis of Conditions Causing Pain in the Lower Back.
- Dr. Jean M. Stevenson, Cincinnati, Surgical Care of Fresh Traumatic Wounds.
- Dr. Samuel A. Cosgrove, Jersey City, N. J., Management of Abruptio Placentae.
- Dr. Walter C. Alvarez, Rochester, Minn., What Is the Matter with the Patient Who Is Always Tired?
- Dr. Lawrence S. Fallis, Detroit, Diagnosis and Treatment of Common Anorectal Diseases.
- Dr. Abraham E. Bennett, Omaha, Modern Treatment of the Mentally Ill.
- Dr. Harrison F. Flippin, Philadelphia, Cardinal Principles of Sulfonamide Therapy.

Missouri physicians on the program include Drs. Robert W. Bartlett, St. Louis, on "Practical Lessons Learned from a Fifteen Year Mortality Study in Toxic Goiter"; John F. Hardesty, St. Louis, "Survey of Persons Receiving Blind Pensions in Missouri from 1923 to 1940"; Willard M. Allen, St. Louis,

"Clinical Use of the Sex Hormones"; Hurley L. Motley, Columbia, "A Simple Qualitative Test for Differentiating Between the Common Sedative Drugs."

NEBRASKA

State Medical Meeting at Lincoln.—The annual assembly of the Nebraska State Medical Association will be held at the Hotel Cornhusker, Lincoln, May 5-8, under the presidency of Dr. Clayton F. Andrews, Lincoln. Guest speakers will include:

- Dr. Harry S. Gradle, Chicago, Prevention of Blindness.
- Dr. Alexander E. Brown, Rochester, Minn., Practical Considerations in Sulfamido Therapy.
- Dr. M. Herbert Barker, Chicago, Hypertension and Its Management; also High Points of Renal Edema and Their Management.
- Dr. Raymond W. McNealy, Chicago, Perforation of Peptic Ulcer; also Treatment of the Acute Gallbladder.
- Dr. Thomas K. Brown, St. Louis, Treatment of Gonococcal Vaginitis; also Postpartum and Postabortal Infections of the Uterus.
- Dr. Samuel W. Becker, Chicago, Dermatologic Fashions; also Diagnosis and Treatment of Vesicular Eruptions of the Hands and Feet.
- Dr. Roland P. Mackay, Chicago, Newer Methods of Treating Acute Meningitis; also Indispensable Neurologic Tests.
- Dr. Arthur E. Hertzler, Halstead, Kan., Recent Studies in the Surgery of Goiter; also Lumbago.
- Dr. Albert V. Stoesser, Minneapolis, Chemotherapy in Pneumonia; also Preventive Allergy—A New Therapy.
- Dr. Carl F. Rusche, Los Angeles, Calculous Disease of the Upper Urinary Tract.

Dr. Roscoe L. Sensenich, South Bend, Ind., will be the speaker at a dinner Tuesday evening, May 6. The annual banquet will be Wednesday evening. The golf tournament will be held Monday, May 5, at the Lincoln Country Club.

NEW YORK

State Medical Meeting in Buffalo.—The annual meeting of the Medical Society of the State of New York will be held at the Hotel Statler, Buffalo, April 28 to May 1, under the presidency of Dr. James M. Flynn, Rochester. There will be two general sessions at which symposiums will be presented. Speakers in a symposium on "Psychosomatic Problems" will be Drs. Bernard Glueck, Ossining; Edwin J. Doty, George Eaton Daniels and Foster Kennedy, New York. Dr. Kennedy's address on "Medicine and Mental Symptoms" will be the A. Walter Suiter Lecture. In a symposium on "Trauma—Its Early Treatment" speakers will be Drs. Fred W. Geib, Rochester; Eli Jefferson Browder, Brooklyn, and Fenwick Beckman, New York. Guest speakers to address sections include:

- Dr. Henry Field Smyth, Philadelphia, Clinical Considerations of Poisonings by Some of the Chlorinated Hydrocarbons.
- Dr. Abrie L. Brooks, Detroit, Solvent Exposures—Petroleum Distillates.
- Dr. Clarence D. Selby, Detroit, New Medical Opportunities in National Defense.
- Dr. Frederick A. Willis, Rochester, Minn., Principles Underlying the Treatment and Management of Coronary Disease.
- Dr. Fred L. Adair, Chicago, Streptococcal Puerperal Infections.
- Dr. Winthrop M. Phelps, Baltimore, Differential Characteristics of Spasticity and Athetosis in Relation to Therapeutic Measures.
- Dr. Priscilla White, Boston, Management of the Diabetic Child.
- Dr. George J. Thomas, Pittsburgh, Prevention of Explosions of Anesthetic Mixtures by the Addition of Helium.
- Dr. Joseph M. Hill, Dallas, Texas, Preparation and Use of Desiccated Plasma by Mass Production Methods and Its Importance in Routine and Military Surgery.
- Dr. Reed M. Nesbit, Ann Arbor, Mich., Chronic Pylonephritis, An Incurable Disease—Importance of Prevention.
- James B. Hamilton, Ph.D., New Haven, Conn., Effects and Clinical Use of Male Hormone Substances.
- Dr. George P. Miley, Philadelphia, Ultraviolet Irradiation of Auto-transfused Blood in the Treatment of Acute Pyogenic Infections.
- Dr. Donald Guthrie, Sayre, Pa., summation of a symposium on surgical treatment of goiter.

The section on public health, hygiene and sanitation will have a symposium on "Medical Problems in National Defense" with the following speakers: Col. Charles M. Watson, M. C., U. S. Army; Drs. Albert E. Russell, U. S. Public Health Service; Vivian A. Van Volkenburgh, state health department, Albany, and John D. Naples, Buffalo.

New York City

Alumni Day at Long Island College.—The Alumni Day of Long Island College of Medicine will be celebrated, April 26, at the college. Following round table discussions, addresses will be made by Drs. William P. Healy on "Pelvic Malignancies" and Frank E. Adair, "The Place of the Radiation Program in the Field of Mammary Carcinoma." At a luncheon Dr. Perry M. Lichtenstein will speak on "Psychopathic Criminals." The annual banquet will take place at the Knights of Columbus Club in Brooklyn, with the Hon. William O'Dwyer, district attorney of Kings County, as the speaker.

Therapeutic Reviews.—The Medical Society of the County of Kings is sponsoring round table therapeutic reviews on Monday afternoons. A specialist in the subject assigned for discussion presides over each conference. Members are asked to submit their questions before the day of the meeting. The series is as follows:

- Dr. Edwin P. Maynard Jr., Brooklyn, Treatment of Angina Pectoris and Coronary Thrombosis, March 17.
- Dr. John H. Crawford, Brooklyn, Treatment of Congestive Heart Failure, March 24.
- Dr. Joseph C. G. Regan, Brooklyn, Sera and Vaccines in the Prevention and Treatment of Contagious and Infectious Diseases, March 31.
- Dr. Matthew Walzer, Brooklyn, Treatment of Hay Fever and Asthma, April 7.
- Dr. Fedor L. Senger, Brooklyn, Treatment of Infections of the Urinary Tract, April 14.
- Dr. Marion B. Sulzberger, New York, Treatment of the More Common Skin Diseases, April 21.
- Dr. Charles Solomon, Brooklyn, Use and Abuse of Hypnotics and Sedatives, April 28.

Society News.—Drs. Nathan B. Van Etten, President of the American Medical Association, and Reed M. Nesbit, Ann Arbor, Mich., addressed the Medical Society of the County of Kings, March 18, on "American Health and National Defense" and "The Selection of Operation for Prostatic Obstruction" respectively.—Dr. Samuel L. Siegler, Brooklyn, gave an afternoon lecture before the Medical Society of the County of Queens, March 21, on "Diagnostic and Therapeutic Aspects of Sterility."—Dr. Albert A. Cinelli addressed the Spanish American Medical Society, March 4, on "Nasal Obstructions."—A symposium on "Current Concepts Regarding Benign Lesions of the Small Intestine" was presented at a stated meeting of the New York Academy of Medicine, March 6, by Drs. Claude F. Dixon, Rochester, Minn., who discussed the surgical aspects; Ross Golden and Burrill B. Crohn, roentgenologic and medical aspects, respectively.—Speakers before the New York Society for Clinical Ophthalmology, March 3, included Drs. Milton C. Peterson on "General Anesthesia in Ophthalmology"; Vito La Rocca, "Treatment of Vernal Catarrh with Dry Ice," and David J. Morgenstern, "Dacryocystorhinotomy, An Office Procedure."

OHIO

Personal.—Dr. Clarence A. Mills, Cincinnati, went to Panama in February to continue work begun last year on the effects of tropical climates on mankind. He was to work at the Gorgas Memorial Institute, Panama, C. Z.—Dr. William M. German, pathologist at the Good Samaritan Hospital, Cincinnati, has been invited to conduct a three months course in pathology at the University of Bogotá, Colombia, it is reported. He was to sail from New York on April 11.

Society News.—Dr. Frank N. Allan, Boston, addressed the Academy of Medicine of Cincinnati, March 25, on "Problems in the Use of Insulin in Diabetes Mellitus." Dr. Albert M. Snell, Rochester, Minn., was the guest speaker, March 18, on "Changing Concepts of Portal Cirrhosis."—Dr. Roy W. Scott, Cleveland, addressed the Summit County Medical Society, Akron, March 4, on "Management of the Failing Heart."—Dr. Hugo Roessler, Philadelphia, addressed the Montgomery County Medical Society, Dayton, March 7, on "Practical Aspects of Cardiology, Such as Dizziness, Fainting, Venous Pulse and Treatment of Emergencies."—Dr. Earl D. Bond, Philadelphia, addressed the Cincinnati Society of Neurology and Psychiatry, March 3, on "Treatment of the Psychoneuroses at the Institute of the Pennsylvania Hospital."—Dr. Berton M. Hogle, Troy, addressed the Miami County Medical Society in Piqua, March 7, on "Gas Bacillus Infection."

OREGON

Hospital News.—Ground has been broken for a six story addition to the Sacred Heart General Hospital, Eugene, to cost \$150,000. It will bring the capacity of the hospital to two hundred beds.—Dr. Philip J. Bartle, Eugene, was elected president of the Oregon Association of Hospitals at the annual meeting in Portland in February.—Dr. Wilson D. McNary has announced his resignation as superintendent of the Eastern Oregon State Hospital, Pendleton, a position he has held for twenty-nine years, according to *Northwest Medicine*.

The Jones Lectures.—Bradley M. Patten, Ph.D., professor and chairman of the department of anatomy and member of the executive committee, University of Michigan Medical School, Ann Arbor, delivered the annual Noble Wiley Jones Lectures at the University of Oregon Medical School, Portland, April 3-4. His subjects were "The First Heart Beats in Living Embryos as Recorded by Micromoving Pictures and

Analyzed Electrocardiographically" and "The Foramen Ovale—Its Development, Its Role in Postnatal Circulatory Changes and Its Congenital Defects."

PENNSYLVANIA

District Meeting.—The Tenth Councilor District, Medical Society of the State of Pennsylvania, held a meeting in Beaver Falls on April 17 with the following speakers, all of Philadelphia: Drs. Robert Bruce Nye on "Relation Between Disease of the Biliary Tract and Affections of the Heart"; George P. Müller, "Surgical Indications in Biliary Tract Disease"; John T. Eads, "Medical Management of Chronic Gallbladder Disease," and Leandro M. Tocantins, "Jaundice from Biliary Tract Disease."

Philadelphia

Study of Malnutrition.—Effects of malnutrition on four thousand school children will be studied in a project recently begun by the Children's Hospital, the Philadelphia Child Health Society and the Ellen H. Richards Institute of Pennsylvania State College. Children of the fifth and sixth grades will be the subjects of the study, which will continue several years, it was said. Pauline Beery Mack, Ph.D., State College, director of the Ellen H. Richards Institute, will direct the study.

Society News.—Dr. Alan R. Moritz, Boston, addressed the Pathological Society of Philadelphia, March 13, on "Forensic Pathology."—Dr. Arthur W. Erskine, Cedar Rapids, Iowa, and Howard B. Alvord, Sc.D., National Institute of Health, Bethesda, Md., addressed the Philadelphia County Medical Society, April 9, on "Practical Methods of Reducing the Cancer Death Rate" and "Recent Investigations Covering the Origin of Mammary Gland Cancer in Mice" respectively.—Dr. George L. Streeter, Baltimore, gave a Nathan Lewis Hatfield Lecture before the College of Physicians of Philadelphia, April 2, on "New Data on Embryogenesis in Monkey and Man."—Drs. John Paul North and Benjamin Lipshutz addressed the Philadelphia Academy of Surgery, April 7, on "Chronic Tenosynovitis" and "Imperforate Anus Associated with Rectovesical Fistula" respectively.

TEXAS

Roentgen Examinations for Beet Workers.—Dr. Thaddeus M. Koppa of the Michigan Department of Health, Lansing, is in San Antonio conducting roentgen examinations among sugar beet laborers of Mexican birth who will work this summer in Michigan fields. The examinations are made because there is a high percentage of tuberculosis among these Texas laborers, according to the Michigan department of health. In 1939 and 1940 ten thousand persons were examined, and tuberculosis was found in two hundred workers. Employment cards were refused them. As in the last two years, the examinations, which will take six weeks, will be made in cooperation with the Michigan Beet Growers Association.

WEST VIRGINIA

Personal.—Dr. Norman G. Patterson, superintendent of McKendree Emergency Hospital, McKendree, has resigned to engage in private practice.—Dr. Owen A. Groves, Hamlin, has been appointed health officer of Kanawha County with headquarters in Charleston, succeeding Dr. Max F. Raine. Dr. Groves has been health officer of the district including Lincoln, Putnam and Wayne counties.

New State Health Officer.—Dr. Clifton F. McClintic, Williamsburg, has been appointed health commissioner of West Virginia, succeeding Dr. Arthur E. McClue. Dr. McClintic, a native of West Virginia, graduated from the University of Cincinnati College of Medicine in 1919. In addition to teaching positions in various medical schools, he has served in the state legislature and has been warden at the state penitentiary.

Society News.—Speakers at a meeting of the Greenbrier Interstate Medical Society in White Sulphur Springs, April 3, were Drs. Henry B. Mulholland, Charlottesville, Va., on "Modern Concepts in the Treatment of Diabetes Mellitus"; Dean B. Cole, Richmond, Va., "Pneumonia," and J. Morrison Hutcheson, Richmond, "Acute Spontaneous Pneumothorax Simulating Coronary Thrombosis."—Dr. Jack Basman, Charleston, addressed the Cabell County Medical Society, Huntington, March 13, on problems in chemotherapy.—Dr. Edward D. King, Cincinnati, addressed the Harrison County Medical Society, Clarksburg, March 6, on "Plastic Surgery of the Nose and Face."—Dr. Carl H. Lenhart, Cleveland, addressed the Kanawha Medical Society, Charleston, March 11, on disease of the gallbladder.

HAWAII

University News.—Dr. Theodore L. Althausen, associate professor of medicine, University of California Medical School, San Francisco, will give a summer course at the University of Hawaii, Honolulu, on "Fundamentals of Health and Disease."

New Medical Headquarters in Honolulu.—Medical and nursing activities in Hawaii have a new central headquarters in the Mabel Smyth Memorial Building, recently completed and dedicated in Honolulu. Offices of the Hawaii Territorial Medical Association, the Honolulu County Medical Society, the Nurses' Association of Hawaii, the Nurses' Association of the City and County of Honolulu, the board of nursing registration, the physicians' exchange, an auditorium with 346 seats and a library are in the new building. Physicians, nurses, business firms and others contributed funds to build the \$100,000 center, which is a memorial to a woman prominent for many years in nursing and public health in Hawaii. The library is the gift of the late Mrs. Charles R. Adams, whose husband was a physician.

PUERTO RICO

Teaching Tropical Medicine.—The director of the School of Tropical Medicine of the University of Puerto Rico, under the auspices of Columbia University, George W. Bachman, Ph.D., has reported activities of the school's fourteenth year. An important event was the establishment of a department of public health, funds for which will be provided by an appropriation under the Social Security Act. Dr. Albert V. Hardy, associate professor of epidemiology at the DeLamar Institute of Public Health, Columbia University, was assigned as the first executive officer of the new department to initiate its program. After three years of reconstruction, the new University Hospital was opened early in the year. The outpatient department was the most important activity of the year under review, 20,077 persons having called for treatment. A new library building, financed by the Puerto Rico Reconstruction Administration, has been completed and a recent grant of \$13,500 from the Carnegie Corporation of New York will provide for equipment. New quarters are under construction for a department of physiology, which is to be developed under the direction of Magnus I. Gregersen, Ph.D., head of the department of physiology at Columbia University College of Physicians and Surgeons, New York.—Dr. Harry S. Mustard, director of the DeLamar Institute, spent several weeks at the School of Tropical Medicine in January in connection with the new school of public health.

GENERAL

Fraudulent Salesman.—A physician from Roselle, Ill., writes that he gave a check of \$7.80 covering subscriptions to several magazines and a Webster's Dictionary to a salesman representing the Readers' Service Bureau, 1428 Times Building, Chicago. On inquiry by the physician, when the order was not delivered, the Readers' Service Bureau reported that the salesman who signed the contract was a fraud. The bureau reported that this was the third similar complaint that had been received and urged cooperation in apprehending the fraudulent salesman. The name on the contract appears to be Elmer J. Peace.

Fellowships in Zoological Research.—The Zoological Society of San Diego announces the renewal of two research fellowships available to advanced graduate students for the pursuit of research work at the Biological Research Institute on some phase of animal biology (concerned primarily with such branches as pathology, bacteriology, parasitology, physiology, comparative anatomy, comparative biochemistry, animal nutrition or animal psychology). The stipend of each fellowship is \$1,000 a year. Further information may be obtained from Charles R. Schroeder, D.V.M., Biological Research Institute, Balboa Park, San Diego, Calif., before May 15.

Society News.—Dr. Philip K. Gilman, San Francisco, was recently chosen president of the Pacific Coast Surgical Association; other officers include Drs. William J. Norris, Los Angeles, and Robert D. Forbes, Seattle, vice presidents, and Frederick L. Reichert, San Francisco, secretary.—Dr. Charles H. Lutterloh, Hot Springs National Park, Ark., was chosen president-elect of the Mid-South Post Graduate Medical Assembly at the annual meeting in Memphis in February, and Dr. Clyde M. Speck, Whitfield, Miss., became president. Vice presidents elected were Drs. Frederick H. Jones, Piggott, Ark.; Jay J. Kazar, Tchula, Miss., and John Jackson, Dyer, Tenn.

Dr. Arthur F. Cooper, Memphis, was reelected secretary.—Dr. Edward W. Alton Ochser, New Orleans, was chosen president-elect of the Southeastern Surgical Congress at the annual session in Richmond, Va., March 10-12. Dr. Julian L. Rawls, Norfolk, Va., became president; Dr. Frank S. Johns, Richmond, was elected vice president and Dr. Benjamin T. Beasley, Atlanta, reelected secretary.

Academy of Physical Medicine.—The nineteenth annual meeting of the American Academy of Physical Medicine will be held at the Hotel Pennsylvania, New York, April 28-30. The speakers will include:

- Harold J. Holmquest, B.S., and Eugene Mittleman, Ph.D., Chicago, Measurements of Useful Output of Diathermy Apparatus by Electrolytic Phantom.
Drs. James Malcolm Bazemore and William Benham Snow, New York, Résumé of Five Years of Fever Therapy.
Dr. Ben L. Boynton, Norfolk, Va., Deep Heat in the Treatment of Hypertension.
Dr. Charles M. Griffith, Washington, D. C., Disabilities Encountered Among Veterans.
Henry Laurens, Ph.D., New Orleans, Influence of the Adrenal Cortex and of Doses of Desoxycorticosterone Acetate on the Blood Pressure Lowering Effect of Carbon Arc Radiation.

One session will be devoted to panel discussions, one on "Physical Medicine in Dermatology" and "Physical Medicine in Relation to the Cancer Problem." During the past year the Academy of Physical Medicine changed its name to the American Academy of Physical Medicine.

Institute of Industrial Medicine and Hygiene.—The American Association of Industrial Physicians and Surgeons and the American Industrial Hygiene Association will present an "Institute of Industrial Medicine and Industrial Hygiene" as the principal feature of their annual meetings in Pittsburgh, May 5-9, at the Hotel William Penn, under the presidency of Dr. Daniel L. Lynch, Boston. Two general sessions will be held with the following speakers, among others:

- Dr. Adolph G. Kammer, East Chicago, Ind., Some Practical Results of Periodic Physical Examinations.
Dr. Alexander H. Colwell, Pittsburgh, Relation of Trauma to Disease.
Dr. William H. Guy, Pittsburgh, Contact Dermatoses.
Frederick B. Flinn, Ph.D., New York, Controlled Radium Hazards.

At a banquet, May 7, the speakers will be Dr. Irvin Abell, Louisville, Ky., chairman of the health and medicine committee of the Federal Security Agency, on "The Role of Industrial Medicine and Industrial Hygiene in National Defense," and Vern O. Knudsen, Ph.D., Los Angeles, "Noise and Hearing."

American Surgical Association.—The annual convention of the American Surgical Association will be held at the Greenbrier Hotel, White Sulphur Springs, W. Va., April 28-30, under the presidency of Dr. David Cheever, Boston. Among the many speakers, the following will be heard in a symposium on surgical preparedness Tuesday:

- Dr. Robert H. Ivy, Philadelphia, Emergency Treatment of War Injuries of the Face and Jaws.
Dr. Norman T. Kirk, colonel, medical corps, U. S. Army, Organization for Evacuation and Treatment of War Casualties.
Dr. Henry H. M. Lyle, New York, The Cooperation Between the Army Services of Evacuation and Hospitalization.
Dr. Frederick R. Hook, commander, medical corps, U. S. Navy, The Role of the Medical Department in Naval Warfare.
Dr. Lennox R. Broster, London, England, title to be announced.
Dr. William E. Gallie, Toronto, Ont., The Experience of the Canadian Army with Amputations of the Lower Extremity.
Drs. Fraser B. Gurd and Laurie H. McKim, Montreal, Que., Bismuth Iodoform Paraffin Paste and Liquid Paraffin Treatment of War and Civilian Wounds.
Dr. Robert H. Kennedy, New York, Present Day Treatment of Compound Fractures.
Dr. Philip D. Wilson, New York, Treatment of Compound Fractures Resulting from Enemy Action.
Dr. Guy A. Caldwell, New Orleans, Effects of Roentgen Therapy upon Gas Gangrene: Clinical and Experimental Observations.
Drs. Charles H. Best and Donald Y. Solandt, Toronto, Ont., Treatment of Shock from the Physiological Point of View.
Drs. Earle B. Mahoney and John J. Morton Jr., Rochester, N. Y., Clinical Value of Preserved Blood Plasma.
Drs. Walter Estell Lee, Jonathan E. Rhoads and William A. Wolff, Ph.D., Philadelphia, Role of Adrenal Cortical Hormone in the Treatment of Patients with Severe Burns.

"Stop the Noise."—Noise Abatement Week will be observed throughout the nation, June 1-7, in accordance with plans approved at a meeting of the National Noise Abatement Council in Cleveland, March 18. The theme of the campaign will be "Stop the Noise." Plans were announced covering educational features of the program, including the distribution of publicity material, with emphasis on pictorial display. It was pointed out that two thousand salesmen, representatives of interested groups, have been instructed to include mention of Noise Abatement Week in their talks in their respective fields, and mayors will be asked to issue proclamations for local

observances. Stress will be placed on engineers' reports of surveys on noise control. The National Noise Abatement Council is the outgrowth of a meeting in Buffalo in 1940, when a group of interested manufacturers met to discuss the prevention of noise. A tentative setup has been directing efforts toward a permanent organization, which was accomplished at the recent Cleveland meeting. By-laws were adopted, and officers chosen include George P. Little of the Celotex Corporation, Chicago, president; S. L. Hooper of Remington Rand, Inc., Buffalo, vice president; G. L. Bostwick, U. S. Gypsum Co., Chicago, treasurer, and F. Edgar McGee of Remington Rand, Inc., Buffalo, secretary pro tem. Offices of the National Noise Abatement Council are located at 19 Rector Street, New York.

Tuberculosis Meetings in San Antonio.—The thirty-seventh annual meeting of the National Tuberculosis Association, the thirty-sixth annual meeting of the American Trudeau Society and the seventeenth annual meeting of the National Conference of Tuberculosis Secretaries will be held on May 5-8 at the Gunter Hotel in San Antonio, Texas. A joint session of the tuberculosis association and the Trudeau society will be devoted to discussions of "National Defense and Health" by Dr. Knox E. Miller, U. S. Public Health Service; Comdr. Robert E. Duncan, M. C., U. S. Navy, Washington, D. C., and Lieut. Col. William C. Pollock, M. C., U. S. Army, Denver. Among speakers before the Trudeau society, which is the medical section of the association, will be:

- Dr. Donato G. Alarcon, Mexico, D. F., Tuberculosis Control Program in Mexico.
Dr. Leopold Brahdy, New York, Tuberculosis as an Occupational Disease Among Hospital Personnel.
Drs. O. Jecovius Farness and Charles W. Mills, Tucson, Ariz., Coccidioidal Infection of the Lung.
Drs. Michael L. Furcolow and Carroll E. Palmer, U. S. Public Health Service; Barbara A. Hewell, Cincinnati, and Waldo E. Nelson, Philadelphia, Quantitative Studies of the Tuberculin Test.
Dr. William O. Fowler, Orlando, Fla., Therapeutic Pneumoperitoneum in Treatment of Pulmonary Tuberculosis and Its Role in the Scheme of Collapse Therapy.

The medical section will join the Bexar County Medical Society, Tuesday evening, in a meeting for general practitioners with these speakers: Drs. James J. Waring, Denver, on "Differential Diagnosis in Pulmonary Tuberculosis"; Paul P. McCain, Sanatorium, N. C., "Management of Pulmonary Tuberculosis," and Chevalier L. Jackson, Philadelphia, "Value of Bronchoscopy in Diseases of the Chest."

U. S. Investigation of Chemical Industries.—The U. S. Department of Justice announced, April 10, that a grand jury sitting in Newark, N. J., has instituted an investigation into alleged restraints of trade and violations of the antitrust laws by certain corporations in the drug, dye and pharmaceutical industries. Subpenas have been issued for the Schering Corporation of Bloomfield, N. J., and the Swiss Bank Corporation of New York, to produce records before the grand jury. Additional subpenas will be issued shortly. This investigation is the result of complaints that certain German interests have entered into agreements with American firms to restrict the production of certain important drug, dye and chemical products and to control and restrict the development by American corporations of foreign trade with South American markets in these commodities. From these complaints it appears that the German interests have entered into patent licensing agreements with American affiliates under which those American firms would withhold their products from South American markets. This, it is complained, was done for the purpose of preserving German control over South American markets for certain drug and dye chemical products. When, as a result of the war, the British blockade made it impossible to ship these products directly from German to South American markets, it is alleged that the German controlling interests arranged to have their American affiliates manufacture the identical German products in this country and to supply them to those South American firms which had placed orders in Germany. The American affiliates, however, were restricted from selling the products generally in South America. Many of the products to which these alleged agreements relate are of great importance from the standpoint of national defense. Complaints received by the department also charge that these agreements have been used to create large German financial credits in the United States and South America. The investigation is being directed by the antitrust division of the department and is in charge of Edward P. Hodges, special assistant to the Attorney General.

Foreign Letters

LONDON

(From Our Regular Correspondent)

Feb. 15, 1941.

Triple Meat Ration for the Diabetic

The Ministry of Food has decided to allow diabetic patients a triple meat ration. Already they get triple rations of butter and margarine. The ministry states that the diabetic, whose lives depend on the use of insulin, run special risks during air raids, which must be guarded against by the patients taking special precautions and by those around them giving prompt and appropriate treatment. They therefore should carry in their pocket or around their neck or wrist information that they have diabetes and are taking insulin. The Diabetic Association supplies a card on which can be written the usual dose of insulin and the name and address of the patient's physician.

Quakers' Work for the Wounded

The religious principles of the Quakers forbid them to take part in war. On the other hand they are distinguished for their practical philanthropy. In this war, as they did in the last, they are doing much for the wounded. A report of the Friends' Ambulance Unit shows that after a period of training in camps and hospitals over five hundred young Quakers engaged in ambulance work oversea. They did work in Finland with twenty ambulances, lorries, staff cars and a kitchen car, transporting wounded from the front line, frequently under machine gun fire and bombing from airplanes. Later they transferred to Norway and some to Egypt. After the evacuation of Dunkirk many worked in emergency hospitals in Britain. In the last war they did similar work, but the iniquity of the enemy in setting Europe aflame was too much for some of them and they transferred to the fighting line.

Harvard to Give Medical Help

With the consent of Dr. James B. Conant, president of Harvard University, Dr. J. E. Gordon, professor of preventive medicine and epidemiology in the university, has accepted the invitation of Mr. Malcolm Macdonald, minister of health, to act as United States liaison officer with the Ministry of Health. Soon after the outbreak of war, Harvard appointed a committee to consider how the university could contribute material or professional help to a cause closely connected with its interests. The possible nature of this help was conceived in the broadest terms, with the suggestion that it might be in the fields of economics, medicine, public health, sociology, law and perhaps other fields. On exchange of opinion between the university and British colleagues, it became evident that help in the fields of medicine and public health was most clearly wanted. In June 1940 Harvard made a formal offer to the minister of health, which was gratefully accepted, to equip and maintain in Britain a public health unit for the study and control of communicable disease. The purposes of the unit were defined as "to lend material aid to a friendly nation, to investigate communicable disease under unusual military and civil conditions and to obtain medical information of value to the national defense of America."

The unit was to include a group of workers concerned with field studies in epidemiology and a laboratory for the study of associated problems. British authorities pointed out the desirability of adding a well equipped hospital for the clinical care and study of communicable disease. This was made possible by the cooperation of the American Red Cross, which agreed to build and transport to Britain a prefabricated hospital of one hundred and twenty-five beds. The final plans for the unit were evolved from discussions between Professor Gordon

and the Ministry of Health in London. Facilities and staff have been provided for the study of communicable disease in the laboratory and at the bedside.

In September Professor Gordon returned to America to lay plans for the hospital. He left in London Dr. John R. Mote, assistant in epidemiology in the Department of Preventive Medicine of Harvard University, who is now acting as medical adviser to the American Red Cross committee in London, to complete local arrangements. Professor Gordon has now returned to London, and the first shipments from America are expected to arrive soon. As liaison officer with the Ministry of Health, Professor Gordon has an office in the ministry.

Sir Pendrill Varrier-Jones

Sir Pendrill Varrier-Jones, the pioneer of village settlements for tuberculosis, has died at the age of 68 years. In 1914 while a research student he was invited to act as a tuberculosis officer for a few weeks, which became months, and he began to see the uselessness of even the most excellent advice to those whose economic position prevented them from taking it. Tuberculosis might be arrested by sanatorium treatment, but when a man returned to his occupation and was exposed to the strain of competition with healthy labor he broke down, lost hope and became a charge on the state. Varrier-Jones saw that tuberculosis was more than a medical problem—it was an economic one. With the aid of prominent Cambridge men—the late Sir Clifford Allbutt, the late Sir German Sims-Woodhead and Sir Humphry Rolleston—he attacked the economic problem by a new method. First one patient was provided with work in special conditions conducive to recovery; then others were added, and from this grew the village settlement for tuberculosis at Papworth, a great institution with 500 acres of land, hospital blocks with every facility for modern treatment, a large sanatorium section, laboratories and a research institute, a village settlement of one hundred cottages, hostels, and factories equipped with labor-saving machinery. Here men worked at their various trades under ideal conditions. The yearly sales of the products of the settlement amount to \$450,000. The scheme proved such a success that it has been followed in other countries. A man of boundless enthusiasm, Pendrill-Jones was ever devising new schemes and at the time of his death was engaged in one for teaching. He was to have represented the British government in 1939 at the meeting in Berlin of the International Union against Tuberculosis, which was prevented by the war.

AUSTRALIA

(From Our Regular Correspondent)

Dec. 27, 1940.

New Light on Poliomyelitis

From experiments carried out at the Walter and Eliza Hall Institute, Melbourne, following the 1937-1938 epidemic of poliomyelitis in Victoria F. M. Burnet has drawn the conclusion that the virus of poliomyelitis has undergone a change. No abnormality was found in the olfactory bulbs of 10 out of 11 patients who died in the acute phase of the disease. This observation, combined with the frequency with which the virus was found in tonsils, nasopharyngeal washings and feces, points rather to other channels of invasion than the generally accepted path by way of the olfactory bulbs. Further, Burnet has demonstrated a remarkable lack of influence of the Victorian infection on the production of antibody.

Changes have also been observed in the age distribution of the disease. Up to 1920 the epidemic age distribution was different from that of other acute infectious diseases. It was a disease of very young children, correctly described as infantile paralysis. In several epidemics since 1920 the age incidence has altered and now closely resembles that of the other common infectious illnesses of childhood. Further differences between the old type

of disease and that of the Victorian epidemic were noticed in the clinical nature and mode of spread of the disease. Few victims escaped paralysis, and there was little evidence to suggest that symptomless adults disseminated the infection.

Burnet concludes, therefore, that before 1920 the virus was one of low virulence but high infectivity, causing widespread and recurrent infection of both adults and children, invading the pharyngeal mucosa and only rarely revealing itself by paralysis. On the other hand, he suggests that the virus is now accommodating itself to changes in the environment and personal habits of civilized communities by becoming more definitely neurotropic and at the same time less infective and less antigenic. The widespread adult reservoir of adult infection is disappearing; thus there is less exposure of very young children, and those of early school ages at which random contacts increase are most affected.

Influenza Virus Infections of the Chick Embryo Lung

F. M. Burnet, working at the Walter and Eliza Hall Institute, Melbourne, has made another valuable discovery regarding the use of chick embryo in the experimental study of the viruses. In the *British Journal of Experimental Pathology* (21:147 [June] 1940) he reports that influenza virus strains can be propagated in chick embryos without preliminary adaptation when the inoculation is made through the amniotic cavity.

The virus produces specific infections of the embryo lung which may be recognized by the gross and microscopic appearances of the lungs, or with greater rapidity and certainty by examination of stained smears of tracheal fluid.

The technic of this method is described. Burnet claims that amniotic inoculation is in a certain sense equivalent to placing the embryo in an infected external environment from which infection can be derived by more or less "natural" routes. It is possible that this circumstance could be applied to the study of viruses other than pneumotropic ones.

This work is of possible importance for two reasons: First, Burnet has successfully infected chick embryo with material of human origin which has passed through only one ferret. He is optimistic that viruses obtained directly from human beings would infect equally well, though he has not had an opportunity to test the point. Such a rapid and reliable means of recognizing influenza virus infection in man without recourse to the somewhat inconvenient ferret would be of great practical value.

Second, the new method offers a possible means for the isolation of some of those viruses, other than that of epidemic influenza, which produce respiratory disorders in man but which so far have eluded study because there is no susceptible test animal.

Another potentiality is the production of antigenic material from virus as little removed from the original human type as possible. In the event of a pandemic due to an antigenically new type of influenza virus, it might be of greatest value to be in a position to produce large quantities of virus in the universally available chick embryo as soon as the responsible virus is isolated.

Heart Disease in Queensland

Vital statistics for the state of Queensland for 1939 show that, of a total of 9,530 deaths, 2,786 were classified as from disease of the heart or circulatory system. Cancer and other tumors were responsible for 1,069, and diseases of the respiratory system for 811. Parasitic and infectious diseases claimed a total of 747, the chief of these being tuberculosis of the lungs (290) and influenza (221). These last would seem unnecessarily high in view of Queensland's dry and sunny climate and the availability of fresh, natural foods. Violent or accidental deaths claimed 812 victims.

Out of a mean population of 1,013,000, over 95,000 persons received treatment at public hospitals during the year. During recent years the Queensland government, with the aid of a state lottery, has established hospitals throughout the state.

The more cynical of the profession in Queensland have called them "monuments to our morbidity," and last year's high sickness and invalidity rate does indeed make one wonder whether it would not have been better to devote less to the institution of hospitals and more to constructive efforts to utilize Queensland's natural health advantages.

Medical Practice in New Zealand

This year New Zealand celebrates the hundredth anniversary of its becoming a colony of the British Empire. In spite of its comparative youth, the Dominion has acquired a system of medical practice in many respects unique, developed to meet the demand of a comparatively small scattered population of just over one million people more or less remote from other medical centers.

Medical training is available through the University of New Zealand, an examining body with six constituent colleges; a medical student may do his first year's work at any one of the four chief colleges, situated in Auckland, Dunedin, Christchurch and Wellington respectively. From his second to his fifth year he attends the Otago National Medical School in Dunedin, and for his sixth (clinical) year he may choose the public hospital in any one of the four cities mentioned. The number of students in each year has fluctuated between thirty and a hundred in the past twenty years.

Well-to-do parents are perhaps not so much a prerequisite for medical training in New Zealand as in Europe; many students can live at home, and plenty of government scholarships are available. In the early years of training students can augment their resources by working in the country during the long vacation.

Comparatively little has been attempted in the way of original research or investigation in New Zealand, and there are few appointments for full time research work. Nor has postgraduate education been attempted. Up until twenty years ago most students went to England to qualify, and there is still a strong tendency for them to go abroad after a year or two as hospital residents and before settling into practice. They usually spend from one to five years in England or America, taking resident posts and working for a higher degree. Many, of course, never return to New Zealand but find opportunities elsewhere for special work.

Those who do return usually are obliged to enter general practice, there being only a limited number of specialist appointments available. The duties falling to a general practitioner in New Zealand include lodge practice (which is equivalent to panel practice) anesthetics and obstetrics. Also he may hold an appointment as senior surgeon at a public hospital and teach clinical surgery to the final year students.

The public hospitals in New Zealand were founded as government institutions, in the first place to care for the Maoris, but later the poorer members of the white community made use of them. It was hoped that they would be supported by voluntary contributions and rates, but these sources proved insufficient and the government has had to assume greater responsibility for them. In 1939, under the national insurance scheme, hospital benefits were made available to all: out of a fund raised from taxation and compulsory contributions the government pays the hospital 6s a day for every patient. Every citizen has a right to avail himself of the services of a public hospital, including those of the consultant staff, but private hospitals exist for those who wish to use them. Many of the well-to-do group, however, now make use of the public hospitals, and the payment offered to hospital consultants will offset the financial disadvantages they have hitherto suffered on this account.

Being a new country and a small one, removed from the immediate action of the war, New Zealand may provide fertile material for experiment in the search for a better system of administering medical care.

Deaths

Charles Joseph Whalen * Chicago; Rush Medical College, Chicago, 1891; member of the House of Delegates of the American Medical Association from 1915 to 1918 and from 1920 to 1940; professor of medicine, 1913-1914, member of the board of trustees, 1914-1915, member of the council and professor of medicine, 1915-1916, Bennett Medical College; formerly associate professor of medicine at his alma mater; past president of the Chicago Medical Society and the Illinois State Medical Society; at one time health commissioner of Chicago; editor of the *Illinois State Medical Journal*; aged 72; formerly on the consulting staff of the Cook County Hospital and on the staff of St. Joseph's Hospital; on the staff of the Ravenswood Hospital, where he died, April 7, of lymphatic leukemia.

Fred Moore * Des Moines, Iowa; member of the Council on Medical Education and Hospitals of the American Medical Association from 1934 to 1941 and member of its House of Delegates in 1927 and from 1931 to 1940; died, April 8, of carcinoma of the stomach. Dr. Moore was born in Harlan, Iowa, May 10, 1883, and graduated from the State University of Iowa College of Medicine, Iowa City, in 1911. He was a member of the American Academy of Pediatrics and past president of the Polk County Medical Society. Dr. Moore was director of the health department of the public schools of Des Moines and was on the staffs of the Iowa Methodist, Iowa Lutheran and Mercy hospitals.

Edward Clark, Buffalo; University of Buffalo School of Medicine, 1880; past president of the Erie County Medical Society; formerly demonstrator of anatomy at his alma mater; became a member of the city board of health in 1884; four years later was appointed city health commissioner; when the public health council was created in 1913, was appointed a member; was district state health officer of the territory comprising Erie, Genesee, Niagara and Orleans counties; for many years assistant surgeon at the Charity Hospital; aged 87; died, February 28, of chronic myocarditis and arteriosclerosis.

Roy Alpha Payne * Portland, Ore.; University of Minnesota Medical School, Minneapolis, 1915; past president of the Multnomah County Medical Society and the Pacific Coast Roentgen Ray Society; member of the American Roentgen Ray Society, Radiological Society of North America, the American College of Radiology and the North Pacific Society of Internal Medicine; clinical associate in internal medicine at the University of Oregon Medical School; member of the state board of health; aged 55; died, February 12, of melanocarcinoma of the toe with metastases to the liver and brain.

George Harold Belote * Ann Arbor, Mich.; University of Michigan Medical School, Ann Arbor, 1923; instructor in dermatology and syphilology and research assistant from 1925 to 1927, assistant professor from 1928 to 1930 and since 1930 associate professor of dermatology and syphilology at his alma mater; member of the American Dermatological Association and the American Academy of Dermatology and Syphilology; served during the World War; on the staff of the University Hospital; aged 46; died, March 11, of carcinoma of the liver.

Hazle Padgett, Nashville, Tenn.; University of Pennsylvania Department of Medicine, Philadelphia, 1892; professor of physiology and general histology at the University of Tennessee College of Medicine, Memphis, from 1893 to 1900, professor of physical diagnosis from 1900 to 1909 and professor of clinical medicine and nervous and mental diseases from 1909 to 1911; at one time on the staff of the Nashville General Hospital; aged 73; died, February 11, of myocarditis.

William D. Beadie, Windom, Minn.; McGill University Faculty of Medicine, Montreal, Que., 1900; member of the Minnesota State Medical Association; for many years superintendent of the Mineral Springs Sanatorium, Cannon Falls; formerly medical director of the Pokegama Sanatorium, Pokegama, Minn.; aged 66; died, February 7, of cerebral hemorrhage, hypertension and arteriosclerosis.

Frank William Sorell, San Antonio, Texas; College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1905; served during the World War; on the staffs of the Robert B. Green Memorial Hospital and the Physicians and Surgeons Hospital; aged 59; died, January 25, in the Nix Hospital of influenza and coronary thrombosis.

William Amos Rohlf, Waverly, Iowa; State University of Iowa College of Medicine, Iowa City, 1891; member and past president of the Iowa State Medical Society; past presi-

dent of the Bremer County Medical Society; fellow of the American College of Surgeons; formerly president of the staff of St. Joseph Mercy Hospital; aged 74; died, February 17.

Arthur Henry Johnson, Portland, Ore.; University of Michigan Department of Medicine and Surgery, Ann Arbor, 1895; member of the Oregon State Medical Society; fellow of the American College of Surgeons; on the staffs of the Emanuel and Good Samaritan hospitals and Portland Sanitarium; aged 71; died, February 17, of coronary occlusion.

Wendell Arthur Heath Paige * Brownwood, Texas; George Washington University School of Medicine, Washington, D. C., 1911; fellow of the American College of Physicians; served during the World War; for many years on the staff of the Medical Arts Hospital; aged 54; was found dead, February 14, of a self-inflicted bullet wound.

William Edwin Cass, Vancouver, Wash.; Toledo (Ohio) Medical College, 1898; Washington University School of Medicine, St. Louis, 1899; member of the Washington State Medical Association; at one time a captain in the United States Army; aged 79; died, February 1, in the Veterans Administration Facility, Portland, Ore.

Carl Aschenbrenner * Pella, Iowa; State University of Iowa College of Homeopathic Medicine, Iowa City, 1894; past president of the Marion County Medical Society; formerly state senator; served during the World War; health officer of Pella; aged 75; died, February 26, of a malignant growth of the lungs.

Amelia Louise Klehm, Chicago; College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1902; aged 70; since 1925 on the staff of St. Francis Hospital, Evanston, where she died, February 22, of melanocarcinoma of the eye with metastasis to the liver.

Isadore Katz, Philadelphia; Temple University School of Medicine, Philadelphia, 1929; member of the Medical Society of the State of Pennsylvania; assistant in anatomy at his alma mater; on the staff of the Mount Sinai Hospital; aged 35; died, February 20, of coronary thrombosis.

Albert Edwin Hager, Taylor, Pa.; Jefferson Medical College of Philadelphia, 1895; member of the Medical Society of the State of Pennsylvania; formerly health officer; at one time on the staff of the Taylor Hospital; aged 71; died, February 15, of coronary thrombosis.

Louis Lincoln Gregory, Urbana, Ill.; Chicago Medical College, 1888; member of the Illinois State Medical Society; formerly on the staffs of the Cook County Hospital, Henrotin Hospital and the Ravenswood Hospital, Chicago; aged 81; died, February 3, of coronary thrombosis.

Hugh Alexis Rasmussen, Beardstown, Ill.; University of Illinois College of Medicine, Chicago, 1930; formerly a member of the U. S. Indian Service; aged 35; died, February 23, at Maywood of burns and suffocation when a cigaret ignited the chair in which he had fallen asleep.

John Paul McHugh * Long Island City, N. Y.; University and Bellevue Hospital Medical College, New York, 1916; fellow of the American College of Surgeons; aged 49; attending surgeon, St. John's Hospital, where he died, February 3, of hypertension and heart disease.

Mabel Eloise Curtiss, Smyrna, Del.; Woman's Medical College of Pennsylvania, Philadelphia, 1921; since Dec. 29, 1937 assistant physician on the staff of the Delaware State Welfare Home; aged 44; died, February 21, in Bristol, Conn., of tuberculosis of the spine.

Theodore Yuhl, New York; Magyar Királyi Pázmány Petrus Tudományegyetem Orvosi Fakultasa, Budapest, Hungary, 1917; aged 47; died, January 29, in the New York Post-Graduate Medical School and Hospital of chronic cholecystitis and pancreatitis.

Charles Edwin Benham, Tarkio, Mo.; University Medical College of Kansas City, Mo., 1900; member of the Missouri State Medical Association; aged 75; died, February 20, in a hospital at Maryville of injuries received in an automobile accident.

Frederick Walker Houghton * Council Bluffs, Iowa; College of Physicians and Surgeons, medical department of Columbia College, New York, 1883; aged 79; died, February 12, in the Nicholas Senn Hospital, Omaha, of congestive heart disease.

William Blamyier Deas, Augusta, Ga.; Cooper Medical College, San Francisco, 1889; served during the World War; aged 72; died, January 19, of lobar pneumonia, fracture of the neck of the femur, cerebral hemorrhage and arteriosclerosis.

George Ralph Andrews, Detroit; Hahnemann Medical College and Hospital, Chicago, 1884; bank president; member of the board of trustees of the Children's Hospital of Michigan; aged 77; died, February 21, of septic cholecystitis and peritonitis.

Joseph Alphonse Roy, Red Lake Falls, Minn.; School of Medicine and Surgery of Montreal, Que., Canada, 1913; member of the Minnesota State Medical Association; formerly mayor; aged 52; died, January 30, of coronary thrombosis.

Samuel Tilden Marshall, Dover, Ohio; Starling Medical College, Columbus, 1903; member of the Ohio State Medical Association; aged 64; on the staff of the Union Hospital, where he died, January 28, of coronary occlusion.

Walter E. Stathers, Buckhannon, W. Va.; College of Physicians and Surgeons, Baltimore, 1881; Civil War veteran; superintendent of the Weston (W. Va.) State Hospital from 1897 to 1901; aged 92; died, January 19.

Edward Joseph Magee, Danvers, Mass.; College of Physicians and Surgeons, Boston, 1891; member of the Massachusetts Medical Society; on the staff of the Hunt Memorial Hospital; aged 77; died, January 20.

Robert Palmer Fulton, Lakewood, Ohio; Western Reserve University School of Medicine, Cleveland, 1935; member of the Ohio State Medical Association; aged 30; died, January 30, in the Lakeside Hospital, Cleveland.

Omie Joe Letherman @ Thornville, Ohio; Ohio Medical University, Columbus, 1903; served during the World War; aged 58; died, February 12, in the Mount Carmel Hospital, Columbus, of coronary occlusion.

Jonathan Finley Mathews, Houston, Texas; Starling Medical College, Columbus, 1898; member of the State Medical Association of Texas; aged 73; died, January 19, of coronary occlusion and arteriosclerosis.

Walter H. Lott, Monroe, Ga.; Atlanta College of Physicians and Surgeons, 1906; member of the Medical Association of Georgia; aged 60; died, January 9, in the South Carolina Baptist Hospital, Columbia.

Edgar Allen Fleetwood, Clarksburg, W. Va.; University of Maryland School of Medicine, Baltimore, 1904; aged 59; died, February 13, in St. Mary's Hospital of injuries received in an automobile accident.

Bertha Lawton Clinton @ Paris, Ill.; Northwestern University Woman's Medical School, Chicago, 1899; aged 68; on the staff of the Paris Hospital, where she died, February 11, of coronary occlusion.

Moritz F. Weyman, St. Joseph, Mo.; Central College of Physicians and Surgeons, Indianapolis, 1887; aged 77; died, January 28, in State Hospital number 2 of hypertensive cardiovascular disease.

Wesley Dallas Hicks, San Antonio, Texas; Maryland Medical College, Baltimore, 1902; member of the State Medical Association of Texas; served during the World War; aged 66; died, January 18.

William Nelson Brooks, Goose Creek, Texas; St. Louis College of Physicians and Surgeons, 1895; aged 72; on the staff of the Goose Creek Hospital, where he died, February 7, of pneumonia.

Charles Henry Davis @ South Hamilton, Mass.; Harvard Medical School, Boston, 1899; served during the World War; on the staff of the Beverly (Mass.) Hospital; aged 67; died, January 14.

Charles Joseph Schoenfeld, La Crosse, Wis.; Northwestern University Medical School, Chicago, 1899; served during the World War; aged 63; died, January 3, of myocarditis.

Howard Hamblen @ South Windham, Maine; Tufts College Medical School, Boston, 1900; aged 67; died in February in a hospital in Portland of heart disease and lobar pneumonia.

Ithamar Gordon Bogart, Kingston, Ont., Canada; Queen's University Faculty of Medicine, Kingston, 1901; associate professor of surgery at his alma mater; aged 71; died, January 13.

Henri Desmarais, Coderre, Sask., Canada; School of Medicine and Surgery of Montreal, Faculty of Medicine of the University of Laval at Montreal, 1904; aged 62; died, January 21.

Richard McCormick, Waco, Texas; Vanderbilt University School of Medicine, Nashville, 1892; formerly county health officer; aged 73; died, January 30, in a hospital at Dallas.

Frank Eugene Bard, Grosse Pointe Park, Mich.; Cleveland University of Medicine and Surgery, 1897; aged 75; died, February 14, in Columbus, Ohio, of acute spastic colitis.

Philip Theodore Leyendecker, New York; College of Physicians and Surgeons, medical department of Columbia College, New York, 1884; aged 80; died, January 22.

John Jacob Reynolds, Defiance, Ohio; Detroit Medical College, 1879; past president of the Defiance County Medical Society; aged 86; died, January 30, of bronchitis.

James W. Bishop, Lake City, Fla.; Maryland Medical College, Baltimore, 1905; aged 63; died, February 4, of arteriosclerosis, hypertension and chronic nephritis.

Harold Imrie Wallace, Rosemead, Calif.; Detroit College of Medicine, 1898; formerly on the staff of the Harper Hospital, Detroit; aged 66; died, January 21.

William G. Harwood, Dover, Mo.; Missouri Medical College, St. Louis, 1882; member of the Missouri State Medical Association; aged 83; died, January 28.

Stanfield H. Keeney, Indianapolis; Central College of Physicians and Surgeons, Indianapolis, 1900; aged 78; died, January 10, of carcinoma of the prostate.

George Givins Harvey @ Springfield, Ill.; Johns Hopkins University School of Medicine, Baltimore, 1919; aged 46; died, February 16, of coronary occlusion.

Nelson Eugene Oliver, Thornton, Ill.; Rush Medical College, Chicago, 1880; member of the Illinois State Medical Society; aged 83; died, January 8.

Lucia Maria Lane, San Mateo, Calif.; Woman's Medical College of Pennsylvania, Philadelphia, 1888; aged 84; died, January 27, of bronchopneumonia.

William Nathan Lowry, Pine Lawn, Mo.; Kentucky School of Medicine, Louisville, 1882; aged 81; died, January 3, in St. Luke's Hospital, St. Louis.

Hermann Kerk sieck, Viroqua, Wis.; Albert-Ludwigs-Universität Medizinische Fakultät, Freiburg, Baden, Germany, 1889; aged 77; died, January 24.

Jacob A. Maryson, New York; University of the City of New York Medical Department, 1892; aged 74; died, January 18, of coronary thrombosis.

Fisher M. Joslin @ Albany, N. Y.; Albany Medical College, 1893; health officer of Voorheesville; aged 72; died, January 26, of cerebral hemorrhage.

Joseph M. Reeves, Spring Lake, N. J.; Hahnemann Medical College of Philadelphia, 1877; aged 86; died, January 24, of arteriosclerotic heart disease.

Byron Linzie Kesler, Bountiful, Utah; Jefferson Medical College of Philadelphia, 1904; also a dentist; formerly mayor; aged 73; died, January 23.

Frind Robert Frazar @ Merryville, La.; Memphis (Tenn.) Hospital Medical College, 1912; aged 57; died, February 2, in a hospital at New Orleans.

Charles Lee Roland, Humboldt, S. D.; John A. Creighton Medical College, Omaha, 1895; aged 73; died, January 23, of cerebral hemorrhage.

Robert Morton Manson @ Hayward, Calif.; Oakland College of Medicine and Surgery, Oakland, Calif., 1915; aged 62; died, January 8.

Smith Layton Walker, Pictou, N. S., Canada; Bellevue Hospital Medical College, New York, 1890; aged 76; died, January 8.

Robert Oliver, Hamilton, Ont., Canada; McGill University Faculty of Medicine, Montreal, Que., 1916; aged 53; died, January 8.

A. W. Davis, Tusculumbia, Ala.; Meharry Medical College, Nashville, Tenn., 1903; aged 66; died, January 22, of coronary occlusion.

Edgar Langlois, Montreal, Que., Canada; Laval University Medical Faculty, Montreal, 1917; aged 47; died, January 31.

Robert Levy May, Delhi, La.; University of Tennessee Medical Department, Nashville, 1900; aged 66; died in January.

James L. Mason, Lowell, Ohio; Medical College of Ohio, Cincinnati, 1883; aged 86; died, January 3, of bronchopneumonia.

John Wesley Green, Gurdon, Ark. (licensed in Arkansas in 1903); aged 70; died, February 2, of bronchopneumonia.

Paul Andrew Zoells, Los Angeles; Medico-Chirurgical College of Philadelphia, 1902; aged 60; died, January 28.

William Presley Hall, Albertville, Ala.; Southern Medical College, Atlanta, Ga., 1886; aged 82; died, January 26.

Bureau of Investigation

REACH FOR A SWEET AND REDUCE— YOUR APPETITE?

During the past year the Bureau of Investigation has received many inquiries concerning a preparation called "Ayds." Current advertising for this product reads: "Now! Many Lose Weight by New, Easy Plan. Eat Candy Every Day!"

In the past, many preparations for reducing have been promoted which contained ingredients or were accompanied by regimens that were detrimental. The principle involved in this new promotion would seem to be that the eating of a piece of caramel-like candy before a meal will reduce the appetite and therefore the food intake and, finally, the weight of the person who indulges in this procedure. The manufacturers say "You must be careful, however, not to eat Ayds except as directed—as too many would be fattening instead of helping to lose weight" [sic]. The concern thus admits that there is nothing in this preparation which of itself would make one lose weight. As a matter of fact, it offers a \$1,000 guaranty to any one who can prove that there is anything harmful or injurious to the human system in this candy.

Since the promoters know that a restricted diet may result in elimination or reduction of certain food essentials, the manufacturers claim that their preparation contains "powdered carrots, egg yolk, maltose, soy bean flour, coconut oil, milk solids and vitamin A, B₁ and D." This might be satisfactory if the quantities of the dietary essentials such as vitamins in the preparation would serve as an adequate substitute for the particular foods or quantities of foods which were omitted from the diet as a result of taking this candy. Whether or not the claimed vitamin content per caramel—915 units of A, 23 of B₁ and 108 of D—meets this requirement cannot be determined. (On the average a quart of milk contains 1,500 units of A, 195 units of B₁ and 650 units of B₂, which, like C, is not referred to in the list of ingredients.) Presumably when taken according to the directions of the manufacturer Ayds will furnish 2,745 units of A, 69 of B₁ and 324 of D daily. The total adult daily requirements are approximately 4,000-6,000 of A and about 600 of B₁.

One may reasonably question whether or not this product offers anything more significant than an excuse for lessening food intake. Although the appetite at the time of consumption may be lessened it is obvious that an extra meal or midnight snack would offset any such lessening.

This preparation—Ayds—is recommended as a partial substitute for a regular food intake and therefore might be considered as a dietary food. Section 403 (j) of the Food, Drug and Cosmetic Act states that a food should be deemed to be misbranded "if it purports to be or is represented for special dietary uses, unless its label bears such information concerning its vitamin, mineral and other dietary properties as the Secretary¹ determines to be, and by regulations prescribes as, necessary in order fully to inform purchasers as to its value for such uses."

The general decision of the Council on Foods and Nutrition on the subject of Foods for Weight Reduction contains the following paragraph:

"It is important that the contributions to the day's diet made by any so-called 'reducing food' be clearly indicated. If the product is intended to replace one or two meals a day, suitable suggestions for the other meal or meals should be made. The advertising also should carry a statement that dieting to reduce is not without certain dangers, and it should be undertaken only under medical guidance."

The promoters of Ayds say that the plan is not an experiment, that it has been in use for more than two years, and that many persons who were overweight have had an opportunity to give

it a practical test. Nevertheless the use of such a preparation would be considered by the Bureau to be experimental until there is scientific evidence that the preparation and the regimen to be followed in connection with its use constitute an effective and safe procedure for all who might use it.

The disclaimer in the advertising "We do not recommend Ayds to overweights who are suffering from glandular or other constitutional difficulties, or to Diabetics. We advocate that in such cases an overweight seek the advice of a competent physician" is inadequate. How is the user to know that his overweight is due to glandular or other constitutional difficulties? Is the manufacturer suggesting that before any one uses Ayds in self medication, he is supposed to consult his physician, so that it is possible to follow this recommendation? The promotion states, further, that "If you are overweight, in good health and have no glandular trouble, you know, of course, that you eat more than you need. And one of the reasons you eat too much is, perhaps, because you are in such good health and have such a fine appetite." In other words, the promoters intimate that if you are in good health and have a fine appetite you probably overeat, and further, that a reduced food intake will not harm you. But can they guarantee that the new diet will contain an adequate supply of food essentials to maintain your good health?

The following sentences appear in the advertising:

"Exercise such as swimming, walking, running, bicycling, skating or any kind of gymnastics are wonderful if not overdone by those beyond middle age. The only disadvantage to special exercises is that once started, they must be continued if we want to keep the weight down."

The manufacturers then suggest that by using Ayds you get in the habit of eating less food and therefore imply that you do not need to continue using this preparation as you would continue to need exercise. The manufacturers further point out that "Exercises of all kinds, massages and steam baths are all very good in their place, but often they increase the appetite to such an extent that it is mighty hard to lose any weight." It seems pertinent to suggest that the use of Ayds and the amount of lessened food intake, if any, is a regimen that would in many, if not all, cases probably have to be maintained.

Last, but not least, the manufacturers of Ayds use the time-worn testimonial to attest the virtues of their product. Headings used are as follows: "Loses 42 Pounds in Sixty Days," "Loses 45 Pounds—20 Inches At Waist!" "Loses 40 Pounds—Friends Look Twice!" "Loses 17 Pounds, Friends Notice Improvement," and so on. And, finally, some paragraphs under the name of W. F. Briney, M.D., which read as follows:

"To the average fat woman who loves candy, to reduce her weight by a plan that directs eating candy is a novel idea and one which appeals to her very much.

"But this is just what Ayds Plan does to most normally healthy overweight women—reduces without the aid of Cathartics, Glandular products or harmful drugs of any kind.

"The manufacturers of Ayds state that their Candy contains only Vitamins A, B-1 and D, plus food factors from milk, egg-yolk, maltose and plants. Analysis will show: Vitamins A, B-1, D; Dicalcium Phosphate; Powdered Carrots; Artificial Flavors; Powdered Egg Yolks; Whole Milk; Soy Bean Flour; Sugar, Coconut Oil; Salt, Corn Syrup—which substantiates the listing contained in the advertising and directions for use. It was found that the product contained no narcotics, no laxatives, and no glandular extracts such as characterize many other products in the reducing field."

Whether W. F. Briney, M.D., is William F. Briney or Walter F. Briney we do not know, as both of them have as their address that of the Lawndale Laboratories, promoters of glandular products; neither is a member or a Fellow of the American Medical Association. The Bureau has no evidence that either one of them has had any special training in the field of endocrinology, although one of them writes the pamphlets issued by the Lawndale Laboratories on this subject. That either would permit his name to appear under the general heading "Reducing While Eating Candy" and have the remainder of the material under that heading consist of testimonials speaks for itself. The Carlay Company, promoters of Ayds, of course, disclaims these testimonials by stating "These individual unsolicited testimonials are not to be considered as promising equal results to any other individual." If the firm means to imply by this that the testimonials are meaningless, THE JOURNAL is willing to agree.

1. This presumably referred to the Secretary of the Department of Agriculture, but since the Food and Drug Administration has been transferred from that department to the Federal Security Agency, it is presumed that the Administrator of the Federal Security Agency acts in the place of the secretary in this respect.

Correspondence

THE GASTROINTESTINAL EXAMINATION

To the Editor:—At the risk of unduly prolonging the argument on what is meant by a complete gastrointestinal examination: Dr. Gregory Connell in his letter published February 22 raises a perfectly good point—that the gastrointestinal tract is an entity and should be examined as such. My letter published January 18 does not imply the espousal of incomplete examinations. However, the complete gastrointestinal examination takes time and money to do, and my complaint was directed at the physician whose conception of a "g-i" is an examination of the stomach only, who has told the patient it will involve only a short time and who has probably prepared the patient for a fee which would not pay for the cost of the films alone if a proper examination of the complete tract is to be done. Under the setup that governs our practice, all discussion aside as to the merits of the situation, the patient's clinician is responsible for deciding what he wants examined, and my plea is simply that the clinician should have the same conception of what a complete "g-i" is that the man has who is to do it. The fact remains that the roentgenologist is called on to examine what the referring physician calls for; and when a physician calls for "a complete 'g-i'" and then takes umbrage at being asked if a barium enema is desired and says "if I want a barium enema I'll specify it," that physician does not know what a complete "g-i," so called, is, and it makes for misunderstanding between referring physician, roentgenologist and patient—a triad among whom harmony is greatly to be desired.

Only in Utopia will it ever be possible to do complete gastrointestinal examinations on all patients with digestive disturbances; and in Utopia there will be no digestive disturbances in the first place.

RAMSAY SPILLMAN, M.D., New York.

SENSITIZATION TO VINYL RESIN

To the Editor:—For a rather important reason I have recently explored the literature with regard to whether sensitiveness to vinyl resin is known to develop in man. I have found only one report (Occupational Dermatitis from Handling Resin-Lined Tin Cans, *THE JOURNAL*, Aug. 10, 1940, p. 448) in which sensitiveness to vinyl resin has been presumed. Schwartz and Russell observed a dermatitis confined chiefly to the cubital spaces and axillae of persons handling unused tin cans coated with an enamel. Three of the affected workers were given patch tests with a metallic colored dust collected from the traveling belt which conveyed the cans. After twenty-four hours two of the three persons showed a positive reaction. Although the dust was found to contain principally tin, iron and resin, it is not certain that the offending substance was a metal, a resin or other substances that might be present on a conveyor belt or in the storage room for cans of a canning factory, or in the freight cars which carried the cans to the factory. That vinyl resin was the offending substance is most unlikely, since the factory concerned canned fruits and juices, according to the implication of the authors, and vinylite enameled cans are not used for fruit and vegetable products because such an enamel "blushes" when exposed to temperatures necessary for processing fruits and vegetables. Hence this evidence, along with other circumstantial evidence submitted by the authors, is insufficient to incriminate vinyl resin.

The medical records of a large manufacturer of cans indicate that when dermatitis has occurred in their manufacturing plants, in which millions of plain and enameled cans are made annually, there has been no correlation between the incidence of dermatitis and the type of cans handled. Enameled cans

for fruits and vegetables have been used for at least thirty years. If resins used in these enamels were related to occupational dermatitis, it is odd that other medical reports incriminating them are not available.

The vinyl resin used for cans is made from vinyl chloride and acetate. It is devoid of plasticizers, such as are used in elasti-glass or similar products which are rather heavily impregnated with plasticizer and to which human skin may become sensitized (Zeisler, E. P.: Dermatitis from Elasti-Glass Garters and Wrist Watch Straps, *THE JOURNAL*, June 29, 1940, p. 2540). The vinyl resin used for cans is also free, except possibly for minute traces, of the organic solvents used for spreading it. Hence the development of sensitiveness of the skin to products similar to "elasti-glass" does not appear to be applicable to the vinylite enamel used in cans.

This communication is written with the hope that any physician who has any evidence indicating that vinylite enamel used in cans is an allergen will communicate with me.

A. C. IVY, PH.D., M.D., Chicago.

ACUTE SUBDELTOID BURSITIS

To the Editor:—In *THE JOURNAL*, March 8, appears an excellent editorial concerning acute subdeltoid bursitis, with particular reference to its treatment. This consists of needling of the bursa, the effectiveness of which has been recently emphasized by Alanson Weeks. Unfortunately no citation was made of the original suggestion of Flint in *THE JOURNAL* in 1913 (Flint, J. M.: Acute Traumatic Subdeltoid Bursitis, April 19, 1913, p. 1224) of aspiration of the bursa in this condition, reporting its successful use in two cases. This omission is perhaps excusable in that no reference is made to Flint's contribution in the article of Patterson and Darrach, referred to in your editorial, and although Weeks gives credit to Flint for its use in acute subdeltoid bursitis he states that "unfortunately he said nothing about this treatment for all forms of the disease." As a matter of fact, Flint stated in his paper "It is particularly desirable to know whether or not the method is of any value in the treatment of the more chronic forms of subdeltoid bursitis," although suggesting that radical excision of the bursa may prove to be "the most successful therapeutic procedure in these cases."

Flint's method of treatment has been employed since its introduction in 1913 at the New Haven Hospital, with success in the great majority of instances. It was assumed that the matter had been adequately presented in *THE JOURNAL* and that it was being employed elsewhere. The rediscovery of aspiration with or without modification in subdeltoid bursitis would seem to indicate that the contrary is the case.

SAMUEL C. HARVEY, M.D., New Haven, Conn.

CORTICAL EXTRACT FOR BROMIDE INTOXICATION

To the Editor:—In the March 1 issue of *THE JOURNAL* is a communication from Alfred Gilman, Ph.D., of Yale University, objecting on theoretical grounds to the use of adrenal cortex extract in the treatment of bromide intoxication as described by Bondurant and Campbell in the January 11 issue of *THE JOURNAL*. As adrenal cortex extract has been advocated by these authors, I would like to substantiate Dr. Gilman's theoretical objection by reporting that 5 patients with bromide intoxication, each treated with a total of 35 mg. of adrenal cortex extract and salt, failed to recover more rapidly than the usual patient treated by salt alone.

The most rapid method of eliminating bromides still seems to be by gastric lavage of the hydrobromic acid secreted by the stomach.

FREDERICK LEMERE, M.D., Seattle.

Medical Examinations and Licensure

COMING EXAMINATIONS

BOARDS OF MEDICAL EXAMINERS

BOARDS OF EXAMINERS IN THE BASIC SCIENCES

Examinations of boards of medical examiners and boards of examiners in the basic sciences were published in *THE JOURNAL*, April 12, page 1735.

NATIONAL BOARD OF MEDICAL EXAMINERS

NATIONAL BOARD OF MEDICAL EXAMINERS: Parts I and II. Various centers, June 23-25. Part III. Various centers, June or July. Exec. Sec., Mr. Everett S. Elwood, 225 S. 15th St., Philadelphia.

EXAMINING BOARDS IN SPECIALTIES

AMERICAN BOARD OF DERMATOLOGY AND SYPHILOLOGY: *Written*. Nov. 3. Final date for filing application is Sept. 23. *Oral*. Dec. 12-13. Final date for filing application is Nov. 8. Sec., Dr. C. Guy Lane, 416 Marlboro St., Boston.

AMERICAN BOARD OF INTERNAL MEDICINE: *Oral*. April, in advance of the meeting of the American College of Physicians and June, in advance of the meeting of the American Medical Association. *Written*. Oct. 20. Final date for filing application is Sept. 1. Sec., Dr. William S. Middleton, 1301 University Ave., Madison, Wis.

AMERICAN BOARD OF NEUROLOGICAL SURGERY: *Oral*. Philadelphia, June 6-7. Sec., Dr. R. Glen Spurling, 404 Brown Bldg., Louisville, Ky.

AMERICAN BOARD OF OPHTHALMOLOGY: *Oral*. New York, June 2; Portland, July 15; Chicago, Oct. 18. *Written*. March 7, 1942. Sec., Dr. John Green, 6830 Waterman Ave., St. Louis.

AMERICAN BOARD OF ORTHOPAEDIC SURGERY: Washington, January. Final date for filing application is Nov. 1. Sec., Dr. Guy A. Caldwell, 1640 State St., New Orleans, La.

AMERICAN BOARD OF PATHOLOGY: *Oral and Written*. Cleveland, June 2-3. Final date for filing application is May 1. Sec., Dr. F. W. Hartman, Henry Ford Hospital, Detroit.

AMERICAN BOARD OF PEDIATRICS: Chicago, May 18, following the Region III meeting of the American Academy of Pediatrics. Boston, Oct. 12, immediately following the annual meeting of the American Academy of Pediatrics. Sec., Dr. C. A. Aldrich, 707 Fullerton Ave., Chicago.

California October Report

Dr. Charles B. Pinkham, secretary, Board of Medical Examiners, State of California, reports the written examination for medical licensure held at Sacramento, Oct. 22-24, 1940. The examination covered 9 subjects and included 90 questions. An average of 75 per cent was required to pass. Sixty-seven candidates were examined, 58 of whom passed and 9 failed. The following schools were represented:

School	PASSED	Year Grad.	Per Cent
University of Arkansas School of Medicine.....	(1939)		79.9
College of Medical Evangelists.....	(1939) 81.1, (1940) 80.4, 81, 81.1		
Stanford University School of Medicine.....	(1940) 80.9, 85.7		
University of California Medical School.....	(1940) 76.6, 81.4, 90.8		
University of Southern California School of Medicine.....	(1940) 81.1, 90.4		
Georgetown University School of Medicine.....	(1934)		86.7
Loyola University School of Medicine.....	(1940) 75.3, 77.3		
Northwestern University Medical School.....	(1939)		87.1, (1940) 83.3, 87.4
University of Chicago, The School of Medicine.....	(1940)		81.7
University of Illinois College of Medicine.....	(1926)		80.2
State University of Iowa College of Medicine.....	(1939)		77.6
Tulane University of Louisiana School of Medicine.....	(1940)		81
Johns Hopkins University School of Medicine.....	(1939)		89.7*
Harvard Medical School.....	(1940)		83.1
University of Michigan Medical School.....	(1938) 84, (1940)		84.7
University of Minnesota Medical School.....	(1939) 83.6,† (1940)		84.1
St. Louis University School of Medicine.....	(1939)		80.1, (1940) 75.6, 79.3, 84, 84.2
Washington University School of Medicine.....	(1940)		77.2*
Creighton University School of Medicine.....	(1939)		87.2, (1940) 79.2, 79.8, 81, 85.8, 87.3
University of Nebraska College of Medicine.....	(1940)		84
University of Oklahoma School of Medicine.....	(1939) 82.8, 84.1, 86		
University of Oregon Medical School.....	(1940) 83.9, 84.3, 84.7		
Baylor University College of Medicine.....	(1940)		78.8
University of Wisconsin Medical School.....	(1940)		81.9
University of Toronto Faculty of Medicine.....	(1937)		83.4
McGill University Faculty of Medicine.....	(1940)		77.6, 90.1
Medizinische Fakultät der Universität Wien.....	(1936)		82.1
Licentiate of the Royal College of Physicians of London and Member of the Royal College of Surgeons of England.....	(1938)		81.8
Deutsche Universität Medizinische Fakultät, Prag.....	(1923)		88.1, (1934) 80.3
Johann Wolfgang Goethe-Universität Medizinische Fakultät, Frankfurt-am-Main.....	(1922)		84.9
Universytet Stefana Batorego Wydział Lekarski, Wilno.....	(1937)		76.6
School	FAILED	Year Grad.	Number Failed
University of California Medical School.....	(1940)		1
Chicago Medical School.....	(1928)		1
Johns Hopkins University School of Medicine.....	(1934)		1
Washington University School of Medicine.....	(1902)		1
McGill University Faculty of Medicine.....	(1927), (1940)		2
Rheinische Friedrich-Wilhelms-Universität Medizinische Fakultät, Bonn.....	(1927)		1
Universität Heidelberg Medizinische Fakultät.....	(1927)		1
Universidade de Lisboa Faculdade de Medicina.....	(1938)		1

Thirteen physicians were licensed to practice medicine by reciprocity and 6 physicians so licensed by endorsement from October 26 through December 21. The following schools were represented:

School	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
Northwestern Univ. Medical School (1937 Michigan, (1938)			Illinois
Rush Medical College.....	(1937)		Texas
Johns Hopkins University School of Medicine.....	(1932)		Maryland
Harvard Medical School.....	(1935)		New York
University of Michigan Medical School.....	(1934)		Michigan
University of Minnesota Medical School.....	(1936)		Iowa
St. Louis University School of Medicine.....	(1931), (1939)		Missouri
Creighton University School of Medicine.....	(1939)		Nebraska
Cornell University Medical College.....	(1937)		New York
Ohio State University College of Medicine.....	(1939)		Ohio
Dalhousie University Faculty of Medicine.....	(1927)		Hawaii

* License has not been issued.

† This applicant has received the M.B. degree and will receive the M.D. degree on completion of internship.

Texas November Report

Dr. T. J. Crowe, secretary, Texas State Board of Medical Examiners, reports the written examination for medical licensure held at Austin, Nov. 25-27, 1940. The examination covered 12 subjects and included 120 questions. An average of 75 per cent was required to pass. Thirty-two candidates were examined, 29 of whom passed and 3 failed. Forty-one physicians were licensed to practice medicine by reciprocity and 1 physician so licensed by endorsement. The following schools were represented:

School	PASSED	Year Grad.	Per Cent.
College of Medical Evangelists.....	(1940)		81.8
George Washington University School of Medicine.....	(1940)		88.5
Chicago Medical School.....	(1934)		81.3, (1937) 78.8, (1939) 75, 81.7, (1940) 76.3, 83.1
Northwestern University Medical School.....	(1940)		83.6
Johns Hopkins University School of Medicine.....	(1931)		84.1
Rush Medical College.....	(1940)		78.1
University of Pennsylvania School of Medicine.....	(1938)		84.6
Baylor University College of Medicine.....	(1940)		75, 75.5, 77.3, 77.7, 80.2, 82.5, 82.5, 83.6, 84.1
University of Texas Faculty of Medicine.....	(1940) 79, 79.9, 87		
Medizinische Fakultät der Universität Wien.....	(1935)		78.7
Universidad Nacional Facultad de Medicina, México.....	(1928)		77
Osteopaths*.....			76, 79.4

School	FAILED	Year Grad.	Number Failed
Chicago Medical School.....	(1937)		1
Universidad Nacional Facultad de Medicina, México.....	(1937)		1
Osteopath*.....			1

School	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
University of Arkansas School of Medicine.....	(1937)		Illinois,
(1938, 2) Arkansas			
University of California Medical School.....	(1939)		California
George Washington University School of Medicine.....	(1938)		Maryland
Howard University College of Medicine.....	(1912)		Kansas
University of Georgia Medical Department.....	(1931)		Georgia
Loyola University School of Medicine.....	(1919)		Illinois
University of Illinois College of Medicine.....	(1924), (1939)		Illinois,
(1936) Minnesota			
State University of Iowa College of Medicine.....	(1937)		Iowa
University of Kansas School of Medicine.....	(1936)		Kansas
Tulane University of Louisiana School of Medicine.....	(1935)		Alabama,
Minnesota, (1936) Louisiana			
College of Physicians and Surgeons of Baltimore.....	(1908)		W. Virginia
Johns Hopkins University School of Medicine.....	(1928)		Alabama
Harvard Medical School.....	(1937)		New Hamp.
University of Michigan Medical School.....	(1939)		Michigan
Wayne University College of Medicine.....	(1930)		Michigan
Univ. of Minnesota Medical School (1921), (1935), (1937)			Minnesota
St. Louis University School of Medicine.....	(1939)		Missouri
Washington University School of Medicine.....	(1935)		Michigan
Creighton University School of Medicine.....	(1939)		Nebraska
Columbia Univ. College of Physicians and Surgeons (1930)			New York
New York University College of Medicine.....	(1935, 2)		New York
University of Cincinnati College of Medicine.....	(1918)		Ohio
University of Oklahoma School of Medicine (1934), (1936), (1938), (1939) Oklahoma			
Jefferson Medical College of Philadelphia.....	(1928), (1937)		Penna.
Univ. of Tennessee College of Med. (1927) Arkansas, (1930)			Tennessee
Vanderbilt University School of Medicine.....	(1907)		Tennessee
McGill University Faculty of Medicine.....	(1931)		Mass.

School	LICENSED BY ENDORSEMENT	Year Grad.	Endorsement of
University of Texas Faculty of Medicine.....	(1931)		U. S. Navy

* Examined in medicine and surgery.

Bureau of Legal Medicine and Legislation

MEDICOLEGAL ABSTRACTS

Malpractice: Liability of Physician for Administration of Insulin in Insulin Shock.—The plaintiff, a boy aged 7 years who was suffering from diabetes mellitus, was placed under the defendant physician's care in February 1937. The defendant placed the boy on a diet and in September he also prescribed daily administration of 30 to 52 units of protamine zinc insulin, which administrations, after the first few injections, were given under the defendant's direction by the plaintiff's mother until the middle of May 1938. The mother made daily tests of the boy's urine and the defendant himself tested the urine for sugar and acetone about once a month. The plaintiff led an active life and attended school regularly. On the morning of May 19, the mother administered to her son 52 units of protamine zinc insulin, a type of insulin which is cumulative in effect and reaches its peak of effectiveness in twelve to twenty-four hours after administration. The plaintiff attended school that day, but in the evening a test of his urine revealed the presence of a considerable amount of sugar. Between midnight and 1 o'clock in the morning he was discovered in an unconscious condition. His mother gave him a small quantity of maple syrup, which revived him slightly so that he was able to talk. He relapsed into unconsciousness and was taken to the defendant's office, arriving there some time between 1 and 2 a. m. On his arrival he was in a cold sweat, extremely pale and very restless—so restless that he had to be held on a table. The mother, as she claimed, informed the defendant as to everything that had taken place and what she had done. The defendant felt the plaintiff's eyeballs, took his pulse and diagnosed his condition as diabetic coma. He thereupon administered at twenty minute intervals unmodified insulin, which acts in fifteen to thirty minutes and reaches its peak of effectiveness in two to three hours after administration. He administered a total of 160 units of insulin but the plaintiff grew progressively worse and more restless, and at about 5 o'clock in the morning he was seized with convulsions. During the convulsions the defendant washed out the plaintiff's stomach with "soda and water," although the defendant later testified that the fluid "also contained glucose and sugar," which procedure caused the plaintiff to vomit. According to the evidence, at no time did the defendant test the plaintiff's urine or take his temperature. The convulsions continued and about 7 o'clock that morning the plaintiff was removed to a hospital where it was found that he was in profound insulin shock and that his blood sugar content was "too low to be read or recorded." It was believed that he had sustained a cerebral hemorrhage while he was in insulin shock. The published report does not indicate what treatment was administered at the hospital, but apparently for some time he alternated rapidly between insulin shock and diabetic coma. For the next nine weeks he remained unconscious and was paralyzed. The plaintiff, by his next friend, sued the defendant for malpractice. At the time of the trial, although physically improved, "he was diabetic, partially paralyzed and an idiot with no hope of recovery and an expectancy of life of not over five years." The defendant made a motion for a directed verdict in his favor on the ground that there was no expert medical testimony tending to show that he had failed to use due care and skill in diagnosing and treating the plaintiff's condition or that the plaintiff's present condition was due to any negligence on his part. From the order of the trial court denying his motion and entering judgment for the plaintiff, the defendant appealed to the Supreme Court of Vermont, Franklin.

The evidence, said the Supreme Court, was conflicting as to the plaintiff's symptoms and condition when brought to the defendant's office. But, continued the court, on this appeal the evidence must be construed in a light most favorable to the plaintiff, and so the jury would have been justified in finding that the facts were as already stated. Likewise, the testimony of the medical witnesses was not entirely in accord. There

was medical testimony, however, that diabetes mellitus is characterized by a high blood sugar or hyperglycemia and that to relieve such condition either protamine zinc insulin or unmodified insulin may be used. The medical testimony further showed that diabetic coma, characterized by a pronounced hyperglycemia, "usually comes on gradually, the patient is quiet and unconscious, the skin is flushed, dry and hot, the breath has a characteristic odor, the pupils of the eyes are contracted, and the temperature is elevated" but that insulin shock, characterized by a low blood sugar content or hypoglycemia, appears suddenly, "the skin is pale and moist, the patient perspires freely, is unconscious and restless and almost invariably has convulsions." The medical testimony further showed that the proper treatment of diabetic coma is the administration of insulin while the proper treatment for insulin shock is the administration of some form of carbohydrate, such as dextrose, but that whether the diagnosis is diabetic coma or insulin shock it is proper to give dextrose or some other form of carbohydrate immediately, because such administration will do no material harm if the case is found to be one of diabetic coma and will tend to a cure if the case is one of insulin shock. Medical witnesses also testified that the fact that a diabetic has revived, even though but briefly, after the administration of a carbohydrate is suggestive of insulin shock. The medical witnesses also testified that it is not difficult to determine whether a patient is in diabetic coma or insulin shock by merely testing the urine for sugar, which procedure should be repeated during the period of treatment. There was also medical testimony that cerebral hemorrhage is a complication of insulin shock and may be caused by it.

The court was of the opinion that the jury was warranted, on the basis of the evidence viewed in a light favorable to the plaintiff, in finding that the defendant had failed to exercise the requisite degree of care and skill when he diagnosed the plaintiff's condition as diabetic coma when it was in fact insulin shock. The jury was also justified, continued the court, in further finding that the course of treatment which the defendant pursued was improper and harmful under the circumstances and caused the plaintiff's injury. There was evidence tending to show that the defendant failed to make a test of the plaintiff's urine, which would have informed him of the nature of the plaintiff's condition, and that he failed to administer the proper remedy called for under the circumstances but injected insulin in an injurious amount. The court, however, believed that a new trial should be had because the trial court had refused to instruct the jury, as the defendant requested, that an error of judgment does not amount to malpractice unless it is so gross as to be inconsistent with the standard of due care. Judgment for the plaintiff was therefore reversed and the cause remanded for a new trial.—*Domina v. Pratt*, 13 A. (2d) 198 (Vt., 1940).

Medical Practice Acts: Acquittal of Defendant in Criminal Court Actions Not a Bar to Revocation of License.—The defendant state board of medical examiners charged that the license under which one Sbordy was practicing medicine in the state of Florida had been obtained by the fraud and forgery of a former secretary of the state board of eclectic medical examiners, who was later sent to the penitentiary for forgery, and that Sbordy had never graduated from an approved medical school but had paid \$2,000 for the forged certificate. Sbordy was notified of the charges against him and of the date set for a hearing thereon. Prior to that date Sbordy filed an original petition in the Supreme Court of Florida for a writ of prohibition to restrain the defendant board from hearing evidence on the charges preferred against him. In his petition he pointed out that he had previously been tried before a court and acquitted on a charge of practicing medicine without a license and that an indictment against him for uttering and publishing a forged certificate to practice medicine had been nolle prossed on motion by the state's attorney after the jury had failed to agree on a verdict. The petitioner did not deny that the right to practice medicine is a valuable property right nor did he deny that the defendant board had the power, in a proper case, to revoke, suspend or annul a license to practice medicine. He did contend, however, that the prior acquittal and release in the two criminal court actions brought against him were res

adjudicata of any further hearings on the matter. The Supreme Court issued a temporary writ of prohibition and ordered the board to show cause why further proceedings before it should not be prohibited. The board filed its answer and the court then proceeded to determine whether the temporary writ should be quashed or a permanent writ of prohibition issued.

The law is well settled, said the Supreme Court, that to make a matter *res adjudicata* there must be identity of (1) parties, (2) subject matter, (3) cause of action and (4) the quality in the person for or against whom the claim is made. A comparison of the proceeding before the board with the two criminal court actions reveals that the aforementioned requirements of identity are not met. The proceeding before the board is an action to revoke the petitioner's forged certificate to practice medicine while the criminal actions were controversies between the state of Florida and the petitioner charging that he was practicing medicine without a license or practicing under a forged certificate and that he himself had uttered and published the forged certificate. Furthermore, in many jurisdictions a proceeding to revoke a license is considered a civil rather than a criminal proceeding. It has also been held in court decisions that an acquittal of a physician in a criminal court on identical charges brought against him by a medical board is not a bar to an inquiry under a medical practice act to deprive the physician of the right to practice his profession. The issue in the present case is whether or not fraud or forgery was committed by the petitioner in obtaining his license to practice, and the board of medical examiners by statute has the power to hear and determine that issue. In the judgment of the court, the prior court actions were not *res adjudicata* of the matter before the board.

The right to practice medicine, continued the court, is a valuable property right and must be protected under the constitution and laws of Florida. Likewise, the preservation of the public health is one of the duties of sovereignty and in a conflict between the right of a citizen to follow a profession and the right of a sovereignty to guard the health and welfare it logically follows that the rights of the citizen to pursue his profession must yield to the power of the state to prescribe such restrictions and regulations as shall fully protect the people from ignorance, incapacity, deception and fraud. The legislature delegated authority to the board of medical examiners to hear and determine the issue now before the court, and no substantial reason has been advanced why that board should not proceed to hear and determine that issue according to law. The Supreme Court, therefore, denied the petitioner a permanent writ of prohibition and ordered the temporary writ quashed.—*State ex rel. Sbordy v. Rowlett et al.*, 190 So. 59 (Fla., 1939).

Society Proceedings

American Medical Association, Cleveland, June 2-6. Dr. Olin West, 535 North Dearborn St., Chicago, Secretary.

American Academy of Physical Medicine, New York, Apr. 28-30. Dr. Herman A. Osgood, 144 Commonwealth Ave., Boston, Secretary.

American Association for the Study of Goiter, Boston, May 26-28. Dr. W. Blair Mosser, 133 Biddle St., Kane, Pa., Secretary.

American Association for the Surgery of Trauma, Montreal and Montebello, Canada, May 29-31. Dr. Ralph G. Carothers, 409 Broadway, Cincinnati, Secretary.

American Association for Thoracic Surgery, Toronto, Canada, June 9-11. Dr. Richard H. Meade Jr., 2116 Pine St., Philadelphia, Secretary.

American Association of Genito-Urinary Surgeons, Hot Springs, Va., May 29-31. Dr. Charles C. Higgins, 2020 East 93d St., Cleveland, Secretary.

American Association of Industrial Physicians and Surgeons, Pittsburgh, May 5-9. Dr. Volney S. Cheney, % Armour and Company, Union Stock Yards, Chicago, Secretary.

American Association of Medical Milk Commissions, Cleveland, June 1-2. Dr. Paul B. Cassidy, 2037 Pine St., Philadelphia, Secretary.

American Association of the History of Medicine, Atlantic City, N. J., May 4-6. Dr. Henry E. Sigerist, 1900 East Monument St., Baltimore, Secretary.

American Association of Anatomical Association, Cleveland, June 3. Dr. Paul H. ... St., Chicago, Secretary.

American College of Physicians, Cleveland, May 31-June 2. Dr. Paul H. ... St., Chicago, Secretary.

American College of Physicians, Boston, Apr. 21-25. Mr. E. R. Loveland, 4200 Pine St., Philadelphia, Executive Secretary.

American Gastro-Enterological Association, Atlantic City, N. J., May 5-6. Dr. Thomas T. Mackie, 16 East 90th St., New York, Secretary.

American Gynecological Society, Colorado Springs, May 26-28. Dr. Richard W. TeLinde, Johns Hopkins Hospital, Baltimore, Secretary.

American Heart Association, Cleveland, May 30-31. Dr. Howard B. Sprague, 50 West 50th Street, New York, Secretary.

American Laryngological Association, Atlantic City, May 28-30. Dr. Charles J. Imperatori, 108 East 38th St., New York, Secretary.

American Medical Women's Association, Cleveland, June 1-3. Dr. Etta Gray, 649 South Olive St., Los Angeles, Secretary.

American Neurological Association, Atlantic City, N. J., June 9-11. Dr. Henry A. Riley, 117 East 72d St., New York, Secretary.

American Ophthalmological Society, Hot Springs, Va., May 29-June 1. Dr. Eugene M. Blake, 303 Whitney Ave., New Haven, Conn., Secretary.

American Orthopedic Association, Toronto, Canada, June 9-12. Dr. Charles W. Peabody, 474 Fisher Bldg., Detroit, Secretary.

American Otological Society, Atlantic City, N. J., May 26-28. Dr. Isidore Friesner, 36 East 73d St., New York, Secretary.

American Proctologic Society, Cleveland, June 1-3. Dr. William H. Daniel, 1930 Wilshire Blvd., Los Angeles, Secretary.

American Psychiatric Association, Richmond, Va., May 5-9. Dr. Arthur H. Ruggles, 305 Blackstone Blvd., Providence, R. I., Secretary.

American Radium Society, Cleveland, June 2-3. Dr. William E. Costolow, 1407 South Hope St., Los Angeles, Secretary.

American Rheumatism Association, Cleveland, June 2. Dr. A. R. Shands, Dupont Institute, Wilmington, Del., Secretary.

American Society for Clinical Investigation, Atlantic City, N. J., May 5. Dr. Eugene M. Landis, University of Virginia Hospital, Charlottesville, Va., Secretary.

American Society for the Study of Allergy, Cleveland, June 2-3. Dr. J. Harvey Black, 1405 Medical Arts Bldg., Dallas, Tex., Secretary.

American Society of Clinical Pathologists, Cleveland, May 30-June 1. Dr. A. S. Giordano, 531 North Main St., South Bend, Ind., Secretary.

American Surgical Association, White Sulphur Springs, W. Va., Apr. 28-30. Dr. Charles G. Mixer, 319 Longwood Ave., Boston, Secretary.

American Therapeutic Society, Cleveland, May 30-31. Dr. Oscar B. Hunter, 1835 Eye St. N.W., Washington, D. C., Secretary.

American Urological Association, Colorado Springs, Colo., May 19-22. Dr. Clyde L. Deming, 789 Howard Ave., New Haven, Conn., Secretary.

Association for Research in Ophthalmology, Cleveland, June 3. Dr. Conrad Berens, 35 East 70th Street, New York, Secretary.

Association for the Study of Internal Secretions, Atlantic City, N. J., May 2-3. Dr. E. Kost Shelton, 921 Westwood Blvd., Los Angeles, Secretary.

Association of American Physicians, Atlantic City, N. J., May 6-7. Dr. Hugh J. Morgan, Vanderbilt University Hospital, Nashville, Tenn., Secretary.

California Medical Association, Del Monte, May 5-8. Dr. George H. Kress, 450 Sutter St., San Francisco, Secretary.

Conference of State and Provincial Health Authorities of North America, Washington, D. C., Apr. 28-May 2. Dr. A. J. Chesley, State Office Bldg., St. Paul, Secretary.

Connecticut State Medical Society, Bridgeport, May 21-22. Dr. Creighton Barker, 258 Church St., New Haven, Secretary.

Florida Medical Association, Jacksonville, Apr. 28-30. Dr. Shaler Richardson, P. O. Box 1018, Jacksonville, Secretary.

Georgia, Medical Association of, Macon, May 13-16. Dr. Edgar D. Shanks, 478 Peachtree St. N.E., Atlanta, Secretary.

Illinois State Medical Society, Chicago, May 20-23. Dr. Harold M. Camp, 224 South Main St., Monmouth, Secretary.

Iowa State Medical Society, Davenport, May 14-16. Dr. R. L. Parker, 3510 Sixth Ave., Des Moines, Secretary.

Kansas Medical Society, Topeka, May 13-15. Mr. C. G. Munns, 112 West Sixth St., Topeka, Executive Secretary.

Louisiana State Medical Society, Shreveport, Apr. 21-23. Dr. P. T. Talbot, 1430 Tulane Ave., New Orleans, Secretary.

Maryland, Medical and Chirurgical Faculty of, Baltimore, Apr. 22-23. Dr. Richard T. Shackelford, 1211 Cathedral St., Baltimore, Secretary.

Massachusetts Medical Society, Boston, May 21-22. Dr. Robert N. Nye, 8 Fenway, Boston, Secretary.

Medical Library Association, Ann Arbor, Mich., May 29-31. Miss Anna C. Holt, 25 Shattuck St., Boston, Secretary.

Minnesota State Medical Society, St. Paul, May 26-28. Dr. B. B. Souster, 493 Lowry St., St. Paul, Secretary.

Mississippi State Medical Society, Dye, Box 295, Clarksdale, Secretary.

Missouri State Medical Association, St. Louis, Apr. 28-30. Mr. E. H. Bartelsmeyer, 634 North Grand Blvd., St. Louis, Executive Secretary.

National Gastroenterological Association, New York, May 13-16. Dr. G. Randolph Manning, Room 319, 1819 Broadway, New York, Secretary.

National Tuberculosis Association, San Antonio, Tex., May 5-8. Dr. Charles J. Hatfield, 1790 Broadway, New York, Secretary.

Nebraska State Medical Association, Lincoln, May 5-8. Dr. R. B. Adams, 416 Federal Securities Bldg., Lincoln, Secretary.

New Hampshire Medical Society, Manchester, May 13-14. Dr. Carleton R. Metcalf, 5 South State St., Concord, Secretary.

New Jersey, Medical Society of, Atlantic City, May 20-22. Dr. Alfred Stahl, 55 Lincoln Park, Newark, Secretary.

New York, Medical Society of the State of, Buffalo, Apr. 28-May 1. Dr. Peter Irving, 292 Madison Ave., New York, Secretary.

New York State Association of Public Health Laboratories, Syracuse, May 19. Miss Mary B. Kirkbride, New Scotland Ave., Albany, Secretary.

North Carolina, Medical Society of the State of, Pinehurst, May 19-21. Dr. I. H. Manning, Chapel Hill, Secretary.

North Dakota State Medical Association, Grand Forks, May 19-21. Dr. L. W. Larson, 221 Fifth St., Bismarck, Secretary.

Ohio State Medical Association, Cleveland, June 3. Mr. C. S. Nelson, 79 East State St., Columbus, Executive Secretary.

Oklahoma State Medical Association, Oklahoma City, May 19-22. Dr. L. S. Willour, 210 Plaza Court Bldg., Oklahoma City, Secretary.

Pacific Coast Oto-Ophthalmological Society, Los Angeles, May 26-29. Dr. C. Allen Dickey, 450 Sutter Street, San Francisco, Secretary.

Philippine Medical Association, Manila, Apr. 22-26. Dr. Candido M. Africa, 547 Herran St., Manila, Secretary.

Rhode Island Medical Society, Providence, May 28-29. Dr. Guy W. Wells, 124 Waterman St., Providence, Secretary.

Society for the Study of Asthma and Allied Condition, Atlantic City, N. J., May 3. Dr. W. C. Spain, 116 East 53d St., New York, Secretary.

South Dakota State Medical Association, Mitchell, May 18-20. Dr. Clarence E. Sherwood, 107½ Egan Ave., Madison, Secretary.

Texas, State Medical Association of, Fort Worth, May 12-15. Dr. Holman Taylor, 1404 West El Paso St., Fort Worth, Secretary.

Utah State Medical Association, Salt Lake City, June 12-14. Dr. D. G. Edmunds, 61 ... St., Salt Lake City, Secretary.

West Virginia, Charleston, May 12-14. Mr. Joe Harleston, Executive Secretary.

Current Medical Literature

AMERICAN

The Association library lends periodicals to members of the Association and to individual subscribers in continental United States and Canada for a period of three days. Three journals may be borrowed at a time. Periodicals are available from 1931 to date. Requests for issues of earlier date cannot be filled. Requests should be accompanied by stamps to cover postage (6 cents if one and 18 cents if three periodicals are requested). Periodicals published by the American Medical Association are not available for lending but can be supplied on purchase order. Reprints as a rule are the property of authors and can be obtained for permanent possession only from them.

Titles marked with an asterisk (*) are abstracted below.

American Journal of Orthopsychiatry, Menasha, Wis.

11:1-190 (Jan.) 1941. Partial Index

- Personality Adjustment of Women Teachers. P. M. Symonds, New York.—p. 14.
- The Classroom as a Social Group: Its Reaction to the Problem Child. M. H. Finley, Winnetka, Ill.—p. 21.
- Play Interviews with Nursery School Children. Anni B. Weiss-Frankl, Baltimore.—p. 33.
- Role of the Professionally Trained Mental Hygienist in Business. T. Burling, New York.—p. 48.
- Imaginary Companions of Children. Lauretta Bender and B. F. Vogel, New York.—p. 56.
- Amphetamine (Benzedrine) Therapy of Children's Behavior Disorders. C. Bradley and Margaret Bowen, East Providence, R. I.—p. 92.
- Deviation of Social Competence in Selected Epileptics. Alice Whiteman Goodman, Skillman, N. J.—p. 104.
- Traumatic Factors in the Background of 116 Delinquent Boys. J. Lander, New York.—p. 150.
- Psychoanalytic Experiences in Public School Practice. H. Zulliger, Bern, Switzerland; English translation by Gladys V. Swackhamer, Hartsdale, N. Y.—p. 157.

Am. J. Roentgenol. & Rad. Therapy, Springfield, Ill.

45:1-160 (Jan.) 1941

- Specification of Dosage in Radium Therapy. Edith H. Quimby, New York.—p. 1.
- Cranial and Intracranial Epidermoidomas from Roentgenologic Point of View. C. W. Schwartz, New York.—p. 18.
- Leiomyosarcoma of Esophagus. L. R. French and L. H. Garland, San Francisco.—p. 27.
- Conus Arteriosus and Pulmonary Artery: Improved Method of Visualization. G. C. Cole, New York.—p. 32.
- *Roentgenologic Diagnosis of Acute Bronchiolitis (Capillary Bronchitis) in Infants. L. W. Paul, Madison, Wis.—p. 41.
- Variations in Calcification Pattern in Epiphyses: Their Nature and Significance. L. W. Sontag and S. I. Pyle, Yellow Springs, Ohio.—p. 50.
- Brachydactyly, Polyphalangism and Brachymetapodism in Moronic Individual with Microcephaly, Internal Frontal Hyperostosis and Endogenous Obesity. T. H. McGavack and H. Reinstein, New York.—p. 55.
- Roentgenologic Studies of Mucosa of Normal Terminal Ileum. F. J. Lust, New York.—p. 63.
- Thoracic Stomach: Case Report. H. H. McGee, Savannah, Ga.—p. 69.
- Diaphragmatic Hernia and Eventration: Use of Pneumothorax in Differential Diagnosis. W. B. Faulkner Jr., San Francisco.—p. 72.
- *Roentgen Irradiation in Treatment of Inflammations. E. P. Pendergrass and P. J. Hodes, Philadelphia.—p. 74.
- Statistical Study of Late Effects of Heavy Roentgen Irradiation on Healing of Skin Wounds. W. G. H. Dobbs, New Haven, Conn.—p. 107.
- Erythematous Skin Reaction Produced by Alpha-Particle Beam: Case Report. J. C. Larkin, Berkeley, Calif.—p. 109.

Roentgen Diagnosis of Bronchiolitis.—Paul discusses roentgen features of 4 cases of acute bronchiolitis in infants. The most pronounced change from normal was a uniform, bilateral emphysema involving all portions of the lungs. The heart was narrow, and the diaphragmatic leaves were depressed. Movement of the diaphragm was practically absent and breathing was carried on chiefly by the accessory muscles. The lungs were clearly overaerated. They had the appearance of being in a continuous extreme inspiratory state. Capillary bronchitis or bronchiolitis is a distinct and well recognized clinical entity in infants. It produces a definite roentgen picture based on well known pathologic observations and is not to be confused with ball-valve blocking of a large bronchus with the resulting emphysema of a more localized distribution. The similarity is such that in the earlier cases the diagnosis of foreign body in the trachea was entertained from roentgen study alone. The history of aspiration of a foreign body is frequently obtained. If differentiation is doubtful, bronchoscopy should be performed. When miliary pneumonia develops, the emphysematous appearance becomes much less noticeable, although it can still be seen on roentgenoscopic

study. It can be confused with miliary tuberculosis. Acute bronchiectasis is likely to follow acute bronchiolitis, bronchopneumonia or peribronchitis.

Roentgen Irradiation for Inflammations.—Pendergrass and Hodes analyze the results obtained in 527 patients treated for inflammatory infections. The conditions treated were bursitis, carbuncle, cellulitis, draining ears, erysipelas, erysipeloid, furuncle, gas gangrene, granuloma, telangiectaticum, herpes simplex, parotitis, pneumonia, sinusitis and verruca vulgaris. They believe that the variance in opinions concerning irradiation for inflammation is due to the absence of reliable information concerning the biologic processes following it. Normally, bacteria carry a negative electrophoretic charge. It seems possible that irradiation might neutralize this charge, rendering the bacteria inactive. Until more is known it may be postulated that the altered albumin-globulin ratio produced by irradiation enhances antibody formation. Irradiation beyond the border of infection increases the flow of blood not only in the periphery of the lesion but in the larger area of normal tissue underlying the infection. Therefore what was originally an area of passive hyperemia is probably transformed into one of active hyperemia. That such is the case seems substantiated by the throbbing and exacerbation of pain in treated areas and sudden chills and fever from four to six hours after irradiation. The active hyperemia not only increases the temperature and local concentration of electrolytes but also decreases edema by increasing lymphatic flow, all of which increase the efficiency of antibodies. The degree of fixation of an infection at the time of irradiation determines whether incision and drainage will be necessary. How irradiation reduces the pain of an infection is a problem. It may be closely associated with the rapid elimination of toxins and edema attending the artificially induced hyperemic state. Of the 90 patients with bursitis whom the authors irradiated, 64 per cent were improved within five days; for the others irradiation had little or no effect on the usual course of the infection without treatment. Of the 20 patients with carbuncle 9 obtained rapid improvement, the usual course of 4 was shortened, 5 received little or no effect and 2 died. There was a rapid improvement among 37 of the 48 patients with cellulitis and lymphangitis irradiated, the usual course of 4 was shortened and 7 experienced little or no benefit (1 of these patients died). Eighteen chronically draining ears were treated; in 6 draining ceased, in 1 it was less profuse and 11 received little or no effect. Despite their limited experience with this type of case their experience encourages the authors to continue using irradiation provided cellular destruction does not exist. Of the 36 patients with erysipelas treated 30 had marked improvement in one or two days, 1 little or no effect and 5 died. Seventeen of 21 patients with erysipeloid improved rapidly, the normal course of 1 was shortened and 3 received little if any effect. Of the 117 furuncles irradiated 85 improved rapidly, in 12 the usual course was shortened and in 20 there was little or no effect. If furuncles are irradiated before complete fixation they may regress without central necrosis after one application. Later a stab incision for drainage may be necessary. The duration of the infection in late cases may be shortened 50 per cent by roentgen therapy. Only 3 patients suffering from gas gangrene were treated; 2 died. They were moribund at the time of irradiation. Available data indicate that the earlier patients with gas gangrene are irradiated the better the prognosis. The results in the 6 patients having pyogenic or telangiectatic granulomas were excellent. All but 1 of 11 patients with herpes simplex were definitely benefited by irradiation. Occasionally, burning and biting sensations cease within twelve hours of exposure. The vesicles dry rapidly. The usual course of the disease is shortened. Of 27 patients with postoperative parotitis treated 14 had marked rapid improvement, 2 moderate, 3 little if any and 8 died. Irradiation of acute parotitis is a roentgen emergency. The best results are obtained if treatment is given immediately after the diagnosis was made. When surgical drainage is necessary from 75 to 100 roentgens hastens resolution and healing. Of 24 children with sinusitis treated 20 obtained complete, 2 moderate and 2 little or no relief of symptoms. The corresponding figures for 98 adults are 23, 19 and 56. Most patients with warts on the feet (65 per cent of

the cases of plantar warts) present themselves in the spring and early fall. This suggests that seasonal changes in shoes produce unusual pressure, which may account for most cases of verruca plantaris. Unless proper shoes or supports are employed to relieve the irritation, treatment is not satisfactory. In their experience from 2,000 to 2,500 roentgens delivered to the surface of the skin at one time has produced an excellent result in 98 per cent of cases. Further irradiation of those patients who have had previous roentgen or radium treatment and to some who have had surgical care may produce a chronic ulcer. With the rapid development of chemotherapy for the treatment of pneumonias, radiologists should direct their attention particularly to those pneumonias which do not respond to chemotherapy.

Am. J. Syphilis, Gonorrhea and Ven. Dis., St. Louis 25:1-132 (Jan.) 1941

- The American Neisserian Medical Society. N. A. Nelson, Boston.—p. 1.
 *Specificity of Serologic Tests for Syphilis as Determined by 40,545 Tests in a College Student Population. H. Eagle, Baltimore.—p. 7.
 Reactions to Tryparsamide Therapy. W. G. Downs, W. McDermott and B. Webster, New York.—p. 16.
 Use of Improved Culture Medium in Diagnosis of Gonococcal Infection in the Adult Female. S. E. Sulkin and Eleonore Gottlieb, St. Louis.—p. 22.
 Lymphogranuloma Venereum as Systemic Disease: Report of Case with Involvement of Skin and Eye. T. Benedek and Dora B. Olkon, Chicago.—p. 28.
 Early Diagnosis of Granuloma Inguinale. R. Brandt and T. S. Gatewood, Augusta, Ga.—p. 48.
 Early Syphilitic Hepatitis with Jaundice: Report of Case. H. Rattner and R. M. Reiffer, Chicago.—p. 56.
 Survey of Sixty-Eight Cases of Extragenital Chancres. U. J. Wile and H. H. Holman, Ann Arbor, Mich.—p. 58.
 Syphilis in Brothers: Transfusion Syphilis; Occurrence of Positive Spinal Fluids After a Previously Negative Examination; Therapeutic Failure of Two Usually Effective Treatments for Syphilis. C. S. Livingood and H. Beerman, Philadelphia.—p. 67.
 Spinal Fluid in Erb's Syphilitic Spinal Spastic Paraplegia. E. E. Peters, Baltimore.—p. 72.
 Quantitative Kahn Reaction as Guide to Antisyphilitic Therapy. S. E. Sulkin and F. G. Gillick, St. Louis.—p. 77.
 Quantitative Study of Reaction of Heated and Unheated Cow Serums to Hinton, Kline and Mazzini Tests. R. A. Greene and E. L. Breazeale, Tucson, Ariz.—p. 85.
 Absence of Heterophile Antibodies in Cow Serums and Occurrence of Positive Kline Reactions. R. A. Greene and H. B. Harding, Tucson, Ariz.—p. 89.
 Results Obtained with Kolmer, Kahn, Kline and Eagle Tests on Animal Serums. N. P. Sherwood, G. C. Bond and H. F. Clark, Lawrence, Kan.—p. 93.
 *Temperature Swing in Treatment of General Paresis: Hypohyperthermia Method. H. C. Solomon, I. Kopp and A. S. Rose, Boston.—p. 96.
 Tabetic Arthropathy: Review of Fifty-Eight Cases. M. M. Pomeranz and A. S. Rothberg, New York.—p. 103.

Specificity of Serologic Tests for Syphilis.—Eagle attempted to determine what proportion of normal, nonsyphilitic persons with no apparent complicating disease give repeatedly positive or doubtful reactions, and whether the proportion is sufficiently large to invalidate positive reactions even when definite clinical evidence or history of syphilitic infection is absent. Young persons (white college students) in whom incidence of syphilis is thought to be small were chosen for the study. Twenty-five schools participated and a total of 40,545 initial specimens from as many students was examined. The tests used represented a fair cross section of those currently used. All specimens giving positive or doubtful results were rechecked and, when feasible, the student in question was studied from the point of view of syphilitic infection. Among the 40,545 students there were 73 initially positive and 117 initially doubtful tests; 33 and 95 respectively were assumed to be due to laboratory error because subsequent specimens were negative. This left 40 positive and 22 doubtful results, a combined incidence of 0.15 per cent. Sixteen of the positive and 5 of the doubtful results were obtained in students who had been, or could now be diagnosed, as syphilitic on the basis of clinical observations (8 congenital syphilis, 1 central nervous system syphilis and 12 early acquired syphilis). In 5 other students with positive tests there was a definite history of antisyphilitic treatment with no information as to why the treatment was instituted. The remaining 19 positive and 17 (36 or 1 in 1,125 tested) doubtful reactors would ordinarily be diagnosed as having and being treated for latent syphilis but might also be regarded as individuals giving biologic false positive reactions in the absence of syphilitic

infection. However, the correlation between the incidence of clinically proved syphilis and these putative false reactions in the individual schools was so high (ungrouped coefficient of correlation 0.83) as to suggest that approximately 26 (70 per cent) of these clinically unconfirmed reactions actually represented latent syphilis. It is possible that the remaining 10 cases (an incidence of 1 in 4,000 tested) represented latent syphilis, false positive reactions due to an unrecognized intercurrent infection or biologic false positive reactions among normal persons. This incidence seems sufficiently small to justify, as a general public health measure, the diagnosis of syphilis in clinically normal persons on the basis of repeatedly positive serologic tests, even when a history or clinical evidence of syphilitic infection is absent. In the individual case or in population groups in which the incidence is known to be small, attempts should be made to differentiate between a possible biologic false positive reaction and one due to latent syphilitic infection.

Temperature Swing in Treating Dementia Paralytica.—Solomon and his colleagues determined the effect on spirochetes of wide swings of temperature in 8 patients with dementia paralytica. The temperatures of the patients were first lowered and then raised as rapidly as possible with the fever cabinet and inductotherm. Thirty-seven such treatments were given. In reducing the temperature the authors followed the technic of Fay. The patient was prepared by a cleansing enema on the evening before, and without breakfast was placed in the fever cabinet with the cover open. After ten or fifteen minutes for stabilization of the temperature (read by means of a constantly recording rectal thermometer), from 7 to 10 grains (0.45 to 0.65 Gm.) of sodium ethyl (1 methylbutyl) thiobarbiturate administered produced a satisfactory anesthesia. Approximately 100 pounds (45 Kg.) of finely cracked or shaved ice was placed about the patient from the axillas to below the knees, excluding the back. One arm was kept exposed for blood pressure readings and subsequent venipunctures. From time to time the anesthetic agent was injected in decreasing doses to maintain anesthesia. When the temperature fell to approximately 90 F. the ice was removed, the body dried and wrapped in warm blankets and the cabinet cover lowered and the heat turned on. After the patient's temperature began to rise, the inductotherm was turned on and temperature of the cabinet was maintained between 102 to 105 F. until the patient's rectal temperature was between 104 and 105 F. The cabinet was then opened and the body temperature allowed to return to normal. The swing in temperature was readily effected and caused no noteworthy disturbance. A few hours after the treatment the patient was able to be up and about and apparently had no delayed symptoms or discomfort. The temperature may be dropped, raised and brought back to an approximately normal level in about six hours. There appeared to be definite relationship (as yet unknown) between the depth of anesthesia and the rate of temperature decline. Several factors probably play a part; the deeper the anesthesia, the lower the metabolism and therefore the less heat created. Also there probably is an increase in superficial vasodilatation with the result of greater cooling, and the anesthetic may not only produce generalized muscular relaxation but also may paralyze the heat-regulating mechanism in the hypothalamus. When the ice is removed from patients requiring a third dose of the anesthetic, a sudden precipitous fall of from 1 to 3 degrees F. was observed. The phenomenon is not clear and may be related to the depth of anesthesia. After the ice is removed and an attempt is made to raise the temperature, shivering makes its appearance as the temperature rises. In some cases it became violent, but became modified or disappeared when the temperature reached approximately 94 or 95 F. Patients have no unpleasant recollection and none objected to a second treatment. The amnesia is apparently due to the anesthetic and not to the lowered temperature alone. The anesthetic during the low body temperature not only dulls the cerebral centers but also lessens the discomfort of the raised temperature. This factor cannot be measured but has been observed in every case. The authors point out that the efficacy of the method in comparison with ordinary artificial therapy cannot be stated before a large group of patients have been similarly treated.

Archives of Pathology, Chicago

31:1-134 (Jan.) 1941

- *Reliability and Significance of Gordon Test in Hodgkin's Disease. P. E. Steiner, Chicago.—p. 1.
- Experimental Studies in Cardiovascular Pathology: III. Polyvinyl Alcohol Atheromatosis in Arteries of Dogs. W. C. Hueper, New York.—p. 11.
- False Diverticulum Formation Following Acute Perforative Appendicitis. B. S. Kline, A. M. Young and R. Straus, Cleveland.—p. 25.
- Pathologic Anatomy of Chronic Ulcerative Cecitis: Spontaneous Disease of Rat. H. L. Stewart and B. F. Jones, Bethesda, Md.—p. 37.
- Effects on Blood and Hemopoietic Organs of Albino Rat of Repeated Administration of Benzene. J. S. Latta and L. T. Davies, Omaha.—p. 55.
- Effect of Constriction of Renal Arteries in Pregnancy and in Certain Endocrine States of Rabbits. L. V. Dill and C. C. Erickson, Durham, N. C.—p. 68.
- Experimental Atherosclerosis: II. Effect of Thiamine Hydrochloride and Ascorbic Acid on Experimental Atherosclerosis in Rabbits. J. Flexner, M. Bruger and I. S. Wright, New York.—p. 82.
- Effect of Progesterone on Growing Cartilage and Bone in Immature Guinea Pigs. M. Silberberg and Ruth Silberberg, St. Louis.—p. 85.
- *Pulmonary Embolism and Infarction. L. Loeffler, Decatur, Ill.—p. 93.
- Pathology of Brunner's Glands. H. E. Robertson, Rochester, Minn.—p. 112.

31:135-284 (Feb.) 1941

- Carcinogenesis by Ultraviolet Rays with Reference to Wavelength and Energy. H. P. Rusch, B. E. Kline and C. A. Baumann, Madison, Wis.—p. 135.
- Effect of High Protein Diets on Experimental Atherosclerosis of Rabbits. Dorothy R. Mecker and H. D. Kesten, New York.—p. 147.
- Concept of Fetal Endocarditis: General Review with Report of Illustrative Case. P. Gross, Pittsburgh.—p. 163.
- Generalized Sarcoidosis of Boeck Accompanied with Tuberculosis and Streptococcal Bacteremia: Clinicopathologic Study with Autopsy and Animal Inoculations. W. F. Hollister and G. T. Harrell, Durham, N. C.—p. 178.
- Visceral Lesions Following Single Subcutaneous Injection of Benzpyrene in Mice. R. Leuchtenberger and Grete Sieber, New York.—p. 189.
- Pathology of Stomach. N. W. Popoff, Rochester, N. Y.—p. 220.

Gordon Test in Hodgkin's Disease.—Among 21 established cases of Hodgkin's disease the Gordon test was positive, according to Steiner, in 16, or 76 per cent. The results of the test obtained from control tissues from 40 cases of lymph node disease of types which must commonly be differentiated from Hodgkin's disease were uniformly negative. The test was therefore reliable in that it excluded nonlymphogranulomatous diseases, but it did fail to detect some instances of Hodgkin's lymphogranuloma. Before accepting the failure of 24 per cent at its face value, the author believes it is well to consider that this figure is derived by using a standard which is not without error, since all experienced histopathologists recognize that microscopic diagnosis of lymph node diseases requires a correction factor of variable amount. Thus two variables have been compared. Of 452 control cases collected from the literature, positive reactions were reported in 8 (1.77 per cent); however, in most, if not all, of them the involved tissue could have been differentiated from Hodgkin's lymphogranuloma by microscopic criteria. The Gordon reaction is consequently reliable in differential diagnosis of lymph node diseases if it is accompanied by microscopic examination and it differentiates closely related types of lymphadenopathy. The distribution of the Gordon agent is such as to make it unlikely as the etiologic agent of the disease. Its properties are those of a nonliving agent, probably enzymatic. The test, while reliable, is therefore nonspecific.

Pulmonary Embolism and Infarction.—Loeffler describes experiments on pulmonary infarction in guinea pigs and rats which he believes further clarify their purely anatomic problems. Tying a string fairly tight around a lobe of the lung produced hemorrhagic infarction; tying a string quickly and tightly produced anemic necrosis. Stoppage of the blood supply to the kidneys, liver, lungs and intestine produced anemic necrosis, an observation applicable to any organ. A hemorrhagic infarct requires a continuous blood current and increased venous pressure. The continuous flow is maintained either by collaterals, as in the lungs, or by incomplete occlusion of the arteries, as in the intestine. Occlusion of the pulmonary artery at any point of its course does not, as a rule, cause serious disturbance of the pulmonary tissue, because there is sufficient collateral circulation through the bronchial arteries. The anemic and the hemorrhagic infarct in lungs represent exceptions to this rule.

Archives of Surgery, Chicago

42:203-452 (Feb.) 1941

- *Significance of Mammary Discharge in Cases of Papilloma of Breast: Clinical and Pathologic Study. H. K. Gray and G. A. Wood, Rochester, Minn.—p. 203.
- Carcinoma of Lung. A. Ochsner and M. DeBakey, New Orleans.—p. 209.
- *Obstruction Following Gastroenterostomy or Subtotal Resection of Stomach: Treatment by Jejunoplasty. C. L. Hoag and J. B. Saunders, San Francisco.—p. 259.
- Chemotherapy: Microscopically Controlled Method of Cancer Excision. F. E. Mohs, Madison, Wis.—p. 279.
- Treatment of Appendicitis at Frankford Hospital: Thirty-Six Year Survey of 4,650 Cases. C. F. Nassau, R. W. Lorry, Philadelphia, and E. J. Pulaski, New York.—p. 296.
- Appendix Vermiformis Duplex. T. R. Waugh, Montreal.—p. 311.
- Improvement in Blood Transfusion Service: I. Selection of Test Serums; Cause and Prevention of Hemolytic Reactions; Role of Subgroups A₁ and A₂. P. Hoxworth, Cincinnati.—p. 321.
- Some Unusual Tumors of Cervical Region. T. M. Joyce, F. R. Menne and W. E. Zeller, Portland, Ore.—p. 338.
- Lipoblastic Meningioma. W. T. Haverfield, Jacksonville, Fla., and A. E. Walker, Chicago.—p. 371.
- Fungous Infections of Brain: Report of Four Cases. G. C. Anderson, New Orleans.—p. 379.
- Malignant Renal Neoplasms in Children: Review of Twenty-Six Cases. C. C. Higgins and F. L. Shively Jr., Cleveland.—p. 386.
- Absolute Muscle Power: Internal Kinesiology of Muscle. A. M. Arkin, New York.—p. 395.
- Cranial Chordomas: Clinical and Pathologic Study. W. J. Gardner, Cleveland, and O. Turner, New Haven, Conn.—p. 411.
- Review of Urologic Surgery. A. J. Scholl, Los Angeles; F. Hinman, San Francisco; A. von Lichtenberg, Budapest, Hungary; A. B. Hepler, Seattle; R. Gutierrez, New York; G. J. Thompson, J. T. Priestley, Rochester, Minn.; E. Wildbolz, Bern, Switzerland, and V. J. O'Connor, Chicago.—p. 426.

Mammary Discharge and Papilloma.—Gray and Wood discuss the significance of discharge from the nipple in cases of mammary papilloma. Their statements are based on data from 227 cases. The average age of 109 patients with benign papilloma was 46 years; the youngest 19 and the oldest 78. All but 1 were women, 80 per cent of whom had been married. A family history of carcinoma was related by 19 per cent. The chief complaint of 87 per cent on admission concerned the breast. The complaint of 81 per cent was specifically of discharge (serous, hemorrhagic or serohemorrhagic) from the nipple for an average of a year and four months. A tumor was palpable in only 28 per cent. Simple mastectomy was done in 83 per cent, local excision in 6 per cent, radical mastectomy in 1 case and bilateral simple mastectomy in 10 cases. The average age of 118 patients with malignant papilloma was 47 years; the youngest 19 and the oldest 87. Only 1 patient was male. Of the women 88 per cent had been married. The male patient had had a serous discharge from the nipple for seven months. It was not associated with a palpable tumor. On examination a carcinomatous papilloma of grade 3 was found. A family history of carcinoma was related by 24 per cent. The patients had recognized that an abnormal mammary condition existed for an average of two and a fourth years before coming to the clinic. The chief complaint of 91 per cent on admission concerned the breast; 74 per cent complained of serous, hemorrhagic or serohemorrhagic discharge for an average of twenty-one months. Slightly more than half of the patients had palpable tumors and 52 patients noticed a discharge in its absence. The tumors of 44 of these patients were classified as papillary adenocarcinoma grade 1, of 7 as grade 2 and of 1 as grade 3. Simple mastectomy was performed on 46 per cent or 54 of the 118 patients and radical mastectomy on 53 per cent or 63 patients. One patient was subjected to local excision only, but this was later followed by radical mastectomy. The lymph nodes of only 3 patients were involved. Fifty-four patients received postoperative roentgen therapy and 16 returned for further surgical treatment (one local excision of nodules on the same breast, eight simple and seven radical mastectomies). There were no deaths in the hospital, but 3 patients died within three, one and nine years, respectively, as a result of recurrence or metastasis. All of these had primarily undergone radical mastectomy. The authors suggest that it is imperative that discharge from the nipple, regardless of its character, in the presence or absence of a demonstrable tumor, be given serious consideration and that in most instances surgical intervention be advised to determine the nature of the lesion.

Obstruction After Gastroenterostomy or Gastric Resection.—Hoag and Saunders believe that the incidence of obstruction after gastroenterostomy or subtotal gastric resection is not "occasional," which fact is evidenced by the constant change in procedures in an endeavor to avoid its occurrence. Obstruction after gastroenterostomy may occur from one or more of the following causes: an improperly placed stoma, a stoma so narrow or small as to produce acute angulation of the jejunum, a proximal loop that is either too long or short so as to cause obstruction when the position of the stomach changes, inadequate fixation of the stomach to the mesocolon and internal hernia, adhesions about the stoma, a rigid and short mesocolon which fails to stretch as the stomach fills, pressure of the middle colic artery, marginal or jejunal ulcers at or near the stoma, adhesions distal to the anastomosis and hypoproteinemia. All these factors, except distal adhesions, are operative in the immediate vicinity of the anastomosis. For the early stages of every obstruction the authors suggest gastric lavage, careful water balance (maximal dextrose and limited salt), 250 cc. or more of protein daily in the form of whole blood or blood serum to combat hypoproteinemia and feedings of thick gruel after the stomach has contracted and the dextrose, protein, salt and water balance is corrected. When these measures fail, jejunoplasty is recommended for relieving the acute obstruction at the level of the stoma. The procedure requires a minimal amount of operative handling and has given effective and prompt relief. It can be completed with no more shock or time than an enteroanastomosis. It possesses the advantages of direct inspection of the stoma and correction at the site of obstruction. It should be much more valuable than the usual jejunostomy or enteroanastomosis and should carry no greater operative risk. The authors do not believe that the jejunoplasty will increase the hazard of jejunal ulcer, as it is designed to increase the lumen of the jejunum and to correct the faulty initial anastomosis. The possibility of marginal ulcer always exists with any gastrojejunal anastomosis. The authors suggest jejunoplasty for gastrojejunal or jejunal ulceration when more radical surgical treatment is contraindicated. They do not suggest jejunoplasty as a substitute for partial gastric resection in the treatment of marginal ulcer but only when the latter operation is contraindicated. It should be of special value when a marginal ulcer has developed after gastric resection and occasionally for the closure of a perforated jejunal or gastrojejunal ulcer.

Delaware State Medical Journal, Wilmington

13:1-16 (Jan.) 1941

Some Endocrine Aspects of Primary Dysmenorrhea. E. Novak, Baltimore.—p. 1.

Florida Medical Association Journal, Jacksonville

27:321-372 (Jan.) 1941

Metycaine as Caudal Anesthetic in Proctologic Surgery: Report of 100 Cases. C. G. Mentzer, Miami.—p. 331.
Lobar Pneumonia: Review of 147 Cases. K. B. Hanson and R. P. Panzer, Jacksonville.—p. 335.
Chemical Cystitis Causing Fibrotic Contraction of Bladder: Treated by Suprapubic Dilations. J. J. Guerra, Tampa.—p. 341.
Use of Wangenstein and Levin Tubes. J. A. Bradley, St. Petersburg.—p. 344.
Management of Major Injuries. F. D. Gray, Orlando.—p. 346.
Treatment of Minor Injuries. T. H. Bates, Lake City.—p. 349.

Kentucky Medical Journal, Bowling Green

39:1-44 (Jan.) 1941

Appendicitis in Children. J. H. Pritchett, Louisville.—p. 5.
Edema, Types and Management. L. T. Minish, Frankfurt.—p. 10.
Osmotic Drainage in Traumatic Surgical Practice. D. L. Vaughn, Morganfield.—p. 12.
Peptic Ulcer with Unusual Developments. M. Flexner, Louisville.—p. 13.
Epidemiology of Diphtheria. C. D. Cawood, Lexington.—p. 15.
Joint Fractures. G. Y. Graves, Bowling Green.—p. 19.
Dangers of Cholelithiasis. I. Abell, Louisville.—p. 24.
History of Chemotherapy in Urinary Infections. J. A. Bowen, Louisville.—p. 28.
Differential Diagnosis of Breast Tumor. J. A. Ryan, Covington.—p. 32.
Recent Developments in Treatment and Prevention of Pellagra. J. Kooser, Hyden.—p. 36.

New England Journal of Medicine, Boston

224:45-88 (Jan. 9) 1941

Sulfathiazole: Clinical and In Vitro Study of Its Use in Infections of Urinary Tract. C. H. Rammelkamp and L. T. Stoneburner, Boston.—p. 45.
Familial Hemolytic Crisis: Report of Three Cases Occurring Within Ten Days. W. Dameshek, Boston.—p. 52.
Removal of Over 1,300 Foreign Bodies from Stomach. P. H. Wheeler, Brattleboro, Vt.—p. 57.
Struma Lymphomatosa: Report of Case Complicated by Myxedema. N. S. Scarcello and R. H. Goodale, Worcester, Mass.—p. 60.
Limitations of Gastroscopy. I. R. Jankelson and C. W. McClure, Boston.—p. 64.
Radiation Therapy in Gynecology. J. V. Meigs, Boston.—p. 67.

224:89-138 (Jan. 16) 1941

Whither American Obstetrics? N. J. Eastman, Baltimore.—p. 89.
Education of the Intern. N. Smith, introductory remarks by N. B. Van Etten, New York.—p. 94.
*Use of Silk in Infected Wounds. E. C. Cutler and J. E. Dunphy, Boston.—p. 101.
*Experience with Femoral Vein Ligation for Prophylaxis of Postoperative Pulmonary Embolism. J. B. Sears, Boston.—p. 108.
Syphilis. C. G. Lane and G. M. Crawford, Boston.—p. 110.

Silk Sutures for Infected Wounds.—Cutler and Dunphy compare the healing of operative wounds sutured with silk and those closed with catgut in animals. Under sterile conditions, parallel wounds were made in an animal's abdomen. These were contaminated with equal amounts of bacterial culture, and one wound was closed with silk and the other with catgut. Only 50 per cent of the silk wounds' suppurred, whereas 100 per cent of the catgut wounds opened and discharged a purulent exudate. The infection in the catgut wounds always appeared earlier and was more severe. Healing occurred at about the same time in the two types of wounds that opened. Although some of the silk sutures were extruded from the wounds, healing occurred without delay and the removal or discharge of all the sutures. If heavy silk or continuous sutures were employed, all the silk often had to be removed from the wound before healing was complete. The use of fine black silk (No. 4 Gudebrand) in the clinic in potentially infected and grossly infected surgical conditions, generally in biliary and alimentary tract cases, gave better results than those obtained when catgut was used. Sutures were discharged in 7 per cent of the authors' 263 cases, but the amount of wound infection and the small incidence of hernia, only about colostomy openings, are favorable signs. In 3 per cent of cases of chronic cholecystitis silk sutures were discharged from the wound, and in 11 per cent when an acute infectious condition was being dealt with, but in these cases there were no instances of hernia or disruption and none of the wounds were seriously involved by infection. In gastric, including the duodenum, and cancer cases with gross contamination of the wounds, there was no trouble with the wound—infection, hernia or the discharge of silk sutures. Of forty-three operations on the large intestine 2 per cent of the wounds discharged some silk sutures. Hernia developed in 2 cases; 1 about a colostomy opening and the other about a Mikulicz procedure; in each of these operations the discharge of fecal contents usually, but not always, seriously contaminates the wound. In gynecologic operations (20 cases) some silk sutures were discharged in wounds closed without drainage, but the usual convalescence was so smooth that the authors have become better satisfied with silk closure than with catgut. Of 55 cases of acute suppurative appendicitis (including perforated appendicitis with diffuse peritonitis, gangrenous appendicitis with purulent fluid and local peritonitis and appendicitis with abscess formation) 39 wounds healed promptly in from twelve days to four weeks, average twenty days. In 2 cases the continuous silk suture used in the peritoneum was discharged before the sixteenth postoperative day. There were 14 cases of delayed healing. Only 2 of these patients were seriously incapacitated because of continued trouble with the wound, and only 4 had to return for dressings after discharge from the hospital.

Femoral Vein Ligation and Postoperative Pulmonary Embolism.—The syndrome discussed by Sears is more serious than the iliofemoral thrombophlebitis (milk leg) and peripheral thrombophlebitis, in which an adherent thrombus is more likely. In the syndrome discussed, clotting apparently begins within the veins among the calf muscles and may progress rapidly to the femoral region or higher. The danger lies in the loosely

attached thrombus or its free-floating propagating tail that breaks off and journeys to the heart and lungs. The onset is usually mild and insidious. The patient sometimes complains of pain in the calf or heel. The duration and intensity of the pain vary. In most patients it lasts from two to eight days. It may disappear after several days, only to be followed by embolism or pain in the femoral region signifying extension to the femoral or iliac vein. There is tenderness on deep palpation of the calf muscles. Forceful dorsiflexion of the foot causes pain in the calf or popliteal area. In the author's 10 cases the complication was associated with no particular type of operation. The first manifestation of pain in the calf appeared from five to fifteen days after operation, average eleven days. The diagnosis of deep thrombosis was made after infarction or embolism in 3 cases. The author believes that deep thrombosis in the calf occurs more frequently but is less often recognized than iliofemoral thrombosis, and that it is the more frequent source of pulmonary embolism. Deep thrombosis does not always result in embolism, but, because it may, it is the author's policy to divide and ligate the femoral vein when the diagnosis is made. The vein is divided even if the diagnosis is made after infarction or embolism has taken place, for the accident is likely to recur. Division removes the danger of embolism and prevents extension beyond the operative site. The patient becomes ambulatory earlier. The operation is performed under procaine hydrochloride infiltration. A vertical 10 cm. incision is made in the femoral triangle over the femoral impulse. On exposure the vein may appear and feel normal. A silk ligature is tied distal to the profunda vein or other large tributary, and the vein is opened below this point. The amount and speed of hemorrhage indicate the extent of venous occlusion. If the vein is firmly thrombosed and surrounded by inflammatory exudate, the operation is without prophylactic value. Since this thrombophlebitis is considered the source of a vasospastic reflex, one of the most important factors in producing clinical manifestations, a portion of the involved vein should be resected. The author believes that some of the operations in his small series of cases prevented embolism and therefore justified those which may have been unnecessary.

Radiology, Syracuse, N. Y.

36:1-130 (Jan.) 1941

- The Utility of Fluorography. I. S. Hirsch, New York.—p. 1.
Irradiation Treatment of Cancer of Skin. F. B. Bogart, Chattanooga, Tenn.—p. 12.
Use of 200,000 Volts in Treatment of Advanced Superficial Cancer. J. T. Murphy and C. E. Hufford, Toledo, Ohio.—p. 23.
Further Observations on Elimination of Intestinal Gas Shadows in Roentgenography. J. E. Lofstrom, Detroit.—p. 34.
Roentgen Diagnosis of Posterior Dislocation of Shoulder. R. A. Rendich and M. H. Poppel, New York.—p. 42.
Diagnostic Difficulties in Roentgen Ray Examination of Pulmonary Tuberculosis. C. C. Birkelo and W. L. Brosius, Detroit.—p. 46.
Importance of Biopsy in Tumor Diagnosis: Report of Experience with New Biopsy Needle. J. Tenopir and I. Silverman, Brooklyn.—p. 57.
Left Subphrenic Abscess. H. Golding and A. J. Delario, Paterson, N. J.—p. 61.
Record Forms for Roentgen Therapy. R. R. Newell, San Francisco.—p. 72.
Mucosal Relief Technic Correlated with Gastroscopy in 150 Cases. C. H. Kelley, J. W. Lawlah and L. H. Berry, Chicago.—p. 77.
Sarcomas of Small Intestine and Reference to Their Radiosensitivity. L. K. Chont, Oklahoma City.—p. 86.
*Roentgen Therapy for Psoriasis of Nails and Psoriatic Arthritis. W. C. Popp and E. A. Addington, Rochester, Minn.—p. 98.
Measurement of Deformity of Alinement Accompanying Fracture. C. R. Johnson, Whittier, Calif.—p. 100.
On the Witness Stand. I. S. Trostler, Chicago.—p. 104.

Roentgen Therapy for Psoriasis.—Popp and Addington used roentgen therapy for the treatment of 24 unquestionable cases of psoriasis of the nails. Of 6 only the fingernails were involved and of 18 the nails of both the hands and the feet. Nine of the 24 patients had arthritis of the distal joints. With the development of the psoriasis of these 9 patients there was usually a definite exacerbation of the arthritis with pain and periarticular swelling. Roentgen studies showed only some periarticular swelling. The average duration of symptoms of the 24 patients was approximately seven years, with a minimum of three months and a maximum of twenty years. The roentgen rays were applied to the dorsum of the hands in a field extending from the nail tips to the wrists, and

to the dorsum of the feet in a field from the tips of the nails to the ankles. The treatments are given with the rays generated at approximately 130 kilovolts with a constant potential, filtered through 4 mm. of aluminum for the hands and through 6 mm. of aluminum for the feet. The dose for each treatment is about 300 roentgens. The treatments are usually repeated twice, at monthly intervals. At least three months must be allowed to elapse before the results can be evaluated. In the cases complicated by arthritis symptomatic improvement has been manifest after the first treatment, but at times an exacerbation of pain and stiffness was observed the first few days after treatment. This exacerbation can be disregarded as it subsides quickly. Six of the patients have had a complete remission of all changes in the nails with no exacerbation to date, 10 showed obvious improvement requiring no subsequent treatment and the lesions in the nails remaining quiescent and 2 patients have had no improvement. Of the 9 patients with arthritis 1 could not be traced, 4 obtained complete symptomatic relief and 4 much improvement. The beneficial results have lasted from six months to five years. The authors do not recommend roentgen therapy as a cure for psoriasis of the nails and psoriatic arthritis. As the natural course of psoriasis is toward recurrence under any treatment the beneficial effect, even though pronounced, will at best be only temporary. The same difficulties will probably arise with repetition of roentgen treatment as have arisen in the treatment of psoriasis of the skin.

Surgery, St. Louis

9:1-162 (Jan.) 1941

- Physiology, Pathology and Clinical Significance of Experimental Coronary Sinus Obstruction: Its Relation to Cardiac Surgery, Coronary Thrombosis and Nutrition of Heart by Thebesian Vessel or Coronary Sinus Backflow. H. F. Robertson, Toronto, Canada.—p. 1.
Physiologic Adjustment in Sublethal Reduction of Lung Capacity in Dogs. F. J. Phillips, W. E. Adams and L. S. Hrdina, Chicago.—p. 25.
Closure and Subsequent Care of Obstetric and Gynecologic Abdominal Wound Disruptions. H. C. Hesseltine and G. P. Bohlender, Chicago.—p. 40.
Experimental Studies with Synthetic Fiber (Nylon) as Buried Suture. L. J. Aries, Chicago.—p. 51.
How Long Should Operation Be Deferred in Cases of Intense Jaundice of Recent Onset? A. L. Bloomfield, San Francisco.—p. 61.
Papillary Cystadenocarcinoma of Pancreas. H. E. Kennard, Boston.—p. 65.
*Surgical Aspects of Lightning Stroke: Case Report. A. S. Crawford and B. F. Hoopes, Detroit.—p. 80.
Pleural Effusion Associated with Ovarian Fibroma (Meigs' Syndrome). F. I. Harris and M. A. Meyer, San Francisco.—p. 87.
Postoperative Pelvic Enterocoele and Uterine Prolapse: Case. R. T. Frank and R. Colp, New York.—p. 94.
*Indication for Splenectomy in Association of Anemia and Splenomegaly. A. O. Wilensky, New York.—p. 99.
Instrument for Visualizing Interior of Common Duct at Operation: Preliminary Note. M. A. McIver, Cooperstown, N. Y.—p. 112.

Surgical Aspects of Lightning Stroke.—Crawford and Hoopes report a case of lightning stroke with recovery from lesions formerly resulting in death. On admission to the hospital, about one and a half hours after the accident, the patient appeared to be in deep shock, but still her blood pressure was 120 systolic and 80 diastolic and her pulse 72. She had no respiratory embarrassment. Her clothes were torn and burned. The hair over the right parietal and mastoid areas was singed, as were the eyebrows and eyelashes. The right ear was almost completely torn off and its upper third was missing. There was a 4 by 2 cm. irregularly charred and macerated laceration of the skin in the right mastoid region. The mastoid bone also appeared to have burst, and its edges were jagged and charred. Sanguineous spinal fluid dripped from the canal of the right ear. The entire right side of her face and neck was covered by a first degree burn, and there was a second degree burn over most of the anterior wall of the chest. Both wrists had small second degree burns and were lacerated. The skin over the pubes had several small lacerations and a second degree burn. The pubic hair was singed. Shock promptly disappeared. Gradually she regained consciousness, and about six hours after the accident she was able to answer simple questions but remained stuporous and quiet. The burns were tanned with resorcinannol jelly and healed as rapidly as those acquired by other means. Sulfanilamide was started on the day after admission as a prophylactic measure against menin-

gitis. The patient's rectal temperature remained around 100 F. for four days and then suddenly rose to 104 F., at which time she became more stuporous and had questionable neck rigidity. Daily lumbar punctures were done for six days. Cultures of the spinal fluid were negative. Sulfanilamide therapy was continued, and hypertonic dextrose was given intravenously periodically. She was placed in an oxygen tent, and during eleven days five small transfusions were given. After spinal drainage was started, she gradually improved. The laceration behind the right ear, which was carefully debrided on admission, healed without infection and the remaining portion of the ear attached itself in spite of the meager blood supply. Fluid stopped draining from the ear on the seventh day. She was discharged thirty-four days after injury. Her vision was good and her husband noted no personality changes. Hearing was fair in her left ear but poor in the right, with almost complete nerve deafness. The right eardrum appeared definitely scarred in the posterior quadrant. Although at the time of débridement it was not possible to approximate the edges of the skin of the mastoid wound, it healed normally. The skull fracture was not verified roentgenologically, but the cerebrospinal otorrhea gave clinical proof. The cerebrospinal otorrhea probably ceased because of the prophylactic use of sulfanilamide.

Splenectomy for Splenomegaly Associated with Anemia.—According to Wilensky, hemolytic erythrocyte destruction is not always due to the same factor, nor is the same laboratory evidence always present in cases which apparently possess similar clinical manifestations. Three groups of cases, based on the reaction of the patient to splenectomy, are clinically discernible. They are (1) cases in which the indication for splenectomy is sharply defined (such as hemolytic icterus with spherocytosis and thrombocytopenic hemorrhagic purpura) and in which a permanent good result (cure) can be expected, (2) cases in which the indication for splenectomy is a symptomatic one and is justifiable in order to relieve the bleeding tendency but in which the underlying disease (as Gaucher's disease) is uninfluenced by the splenectomy and (3) cases in which the indication for splenectomy is a doubtful one, the outcome unpredictable and the operation is commonly done because a more conservative (medical) form of therapy is not available. This third group is represented by cases with indefinite manifestations and the impossibility of definitely classifying the essential lesion. The term Banti's disease may be appropriate in that the modern concept of Banti's disease is that of a terminal entity which results from a number of related or essentially different preceding conditions. In the absence of any sharply demarcating signs, symptoms or laboratory facts the indication for splenectomy is an empiric one. The final outcome in such cases cannot be foretold. The author's patient (whose pathologic study was suggestive of leukemia) has done reasonably well after splenectomy and has had no complaints but continued observation is necessary before any definite opinion can be drawn. In the first two types of cases operation is best during a period of remission, when a good result is to be expected.

Virginia Medical Monthly, Richmond

68:67-130 (Feb.) 1941

- Industrial Health: Medical Opportunity. C. M. Peterson, Chicago.—p. 67.
One Hundred Blood Cultures Before and After Tonsillectomy. S. H. Macht, Creve.—p. 70.
Treatment of Juvenile Delinquency in Bellevue Hospital. F. J. Curran, New York.—p. 74.
Physical Therapy as Aid in Treatment of Pneumonia. B. L. Boynton, Norfolk.—p. 81.
Prophylaxis: Why Isn't It a Factor in Control of Genital Infectious Diseases? W. M. Brunet, Chicago.—p. 83.
Splenic Anemia Complicating Pregnancy: Review of Literature and Case Report. S. Robins, Richmond.—p. 86.
Consideration of Pelvic and Uterine Endometriosis. E. G. Waters, Jersey City, N. J.—p. 92.
Surgery of Biliary Tract. M. K. King, Norfolk.—p. 97.
Patch Tuberculin Test: Study on Ninety-Six Cases. A. D. Shapiro, Roanoke.—p. 100.
Sulfanilamide in Treatment of Acute Mastoiditis. H. L. Harris, Richlands.—p. 103.
Dysmenorrhea-like Episodes in Patient with Congenital Absence of Uterus. H. C. Spalding, R. J. Main and J. L. Patterson, Richmond.—p. 105.
Mechanical Factors in Appendical Pathology as Found in Situ. C. W. Doughtie, Norfolk.—p. 107.
The Child versus the Adult. E. H. Williams, Richmond.—p. 110.

Western J. Surg., Obst. & Gynecology, Portland, Ore.

49:1-70 (Jan.) 1941

- Role of Superior Hypogastric Plexus in Gynecology. E. Henriksen, Los Angeles.—p. 1.
*Incidence of Ovulation as Determined by Endometrial Biopsy. D. G. Morton and C. T. Hayden, San Francisco.—p. 15.
Personal Experiences with the Manchester Operation. A. B. Nash, Victoria, B. C., Canada.—p. 29.
Analgesia and Anesthesia in Labor. D. G. Tollefson, Los Angeles.—p. 44.
Protein Diet in Pregnancy. O. M. Holmes, San Mateo, Calif.—p. 56.

Ovulation Determined by Endometrial Biopsy.—In determining how frequently anovulatory cycles occur in women not complaining of sterility, Morton and Hayden studied the endometrium obtained at operation on women admitted to the gynecologic wards for conditions other than sterility and the endometrium obtained during successive cycles from young women who presented no gynecologic complaints and whose menstrual periods were essentially normal. The 239 endometrial specimens studied were obtained from women (not complaining of sterility) between 20 and 49 years of age. The specimens were obtained at least twenty days after the beginning of the last menstruation. All cases in which there was a diagnosis of endometrial hyperplasia or of uterine or cervical cancer were excluded. An effort was made to determine whether the specimen was typical of the secretory or of the follicular phase. It was found that 169, or 70.7 per cent, of the total specimens were of the secretory type. That is to say, in almost one third of the 239 cases anovulatory cycles occurred. If abnormal groups are excluded the incidence of anovulatory cycles is much lower, 14.6 per cent for the specimens from women having essentially normal periods and 7.4 per cent for the endometrium specimens from women less than 40 years of age having had one or more pregnancies and normal menstrual periods. It is not possible to prove that the women who had anovulatory cycles always have them or that the women who had ovulatory cycles always ovulate, but it seems highly probable that all women occasionally fail to ovulate, and probably more often as they grow older. Anovulatory cycles among women who were more than 40 years of age rose sharply. Study of the endometrium obtained in 142 successive cycles usually within five days of the onset of the next period from 33 young women, all of whom were perfectly healthy and menstruating normally, revealed 5 patients with one anovulatory cycle. In 1 additional patient two successive anovulatory cycles occurred. The ages of these 6 patients were between 21 and 25 years. In no instance among the 33 patients were only anovulatory cycles found. Therefore in these endometria there were variations in the degree of follicular and of secretory activity which could not be related to the time in the cycle at which the specimen was obtained. The authors believe that these variations point to differences in hormone balance or to differences in the reactivity of the endometrium in different individuals at different times. The study indicates that in the presence of regularly recurring periods the chance of any one cycle being anovulatory is probably not more than one in ten up to the age of 40 years. With approach of the menopause, that is after the age of 40, the incidence of anovulatory cycles increases considerably. Even in women in the 40 or 49 age group, however, ovulation occurs surprisingly often: the figures indicate roughly 50 per cent of ovulatory cycles. Thus the presence of essentially regular menstruation can usually be interpreted as an indication of normal, regular ovulation in women less than 40 years of age. However, the figures indicate that probably all women have an occasional anovulatory cycle. The observations minimize the importance of endometrial biopsy in sterility investigations in normally menstruating women. The finding of various degrees of secretory response in the endometrium in the late premenstruum suggests a possible cause of sterility. When the endometrium does not attain the full secretory stage in the late premenstruum it may well be unsuitable for nidation and thus lead to the death of the fertilized ovum. Women in spite of having such conditions as fibroids with menorrhagia, menorrhagia alone, very irregular periods, endometriosis and pelvic inflammatory disease ovulate fairly often.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

British Journal of Dermatology and Syphilis, London

53:1-32 (Jan.) 1941

- Effects of Sulfonamide Compounds on Lupus Erythematosus. H. W. Barber.—p. 1.
Cat Itch: Cheyletiella and Notoedrus Compared. J. H. T. Davies.—p. 18.

British Journal of Ophthalmology, London

25:1-48 (Jan.) 1941

- Survey of Superficial Punctate Keratitis in Tasmania with Record of Mild Epidemic. J. B. Hamilton.—p. 1.
Gyrate Atrophy of Choroid and Retina with Hypogenitalism: Case. E. C. Dax.—p. 18.
Juvenile Amaurotic Idiocy with Disturbances in Water-Salt Metabolism: Case. E. C. Dax.—p. 24.
Mechanism of Aqueous Secretion in Mammalia. T. Henderson.—p. 30.
Bilateral (Mesial) Deficiency of Sclera: Scleral Plaques. B. Graves.—p. 35.

British Journal of Urology, London

12:221-294 (Dec.) 1940

- Injuries to Kidney. R. H. J. Swan.—p. 221.
Injuries of Ureter. J. Everidge.—p. 234.
Treatment of Bladder Following Injury to Spinal Cord. R. H. O. B. Robinson.—p. 244.

British Medical Journal, London

1:1-38 (Jan. 4) 1941

- Pride and Prejudice in Treatment of Cancer. A. Webb-Johnson.—p. 1.
*Rectal Hexobarbitone Soluble: Useful Form of Basal Anesthesia. F. K. Boston and N. R. James.—p. 5.
*Effect of Potassium Salts on Cardiac Irregularities. L. I. M. Castleden.—p. 7.
Bromide Therapy and Intoxication. F. Pilkington.—p. 10.
Contribution to Study of Human Fertility. J. Pryde.—p. 12.

Rectal Hexobarbitone Soluble.—Boston and James used hexobarbitone soluble by rectum as a basal anesthetic for 250 patients undergoing various surgical operations. Rectal hexobarbitone is administered in such a small volume of solution (20 to 30 cc.) that its ejection has not occurred, even in young children. This is of considerable advantage in dealing with emergency operations when enemas are impossible. Another advantage is that tests for decomposition of the solution are not necessary. The dosage of hexobarbitone for adults varies according to whether there has been premedication with atropine only or also with morphine or pantopon. When atropine is the sole premedication the patient's actual or estimated weight (in pounds) is multiplied by 0.02. The result gives the number of grains of hexobarbitone soluble to be administered in warm tapwater. If other premedication has been given in addition to atropine, the patient's weight is multiplied by 0.01 or 0.015 according to his type, age and condition. When morphine or pantopon has been given the basal narcosis is more satisfactory and is less likely to be followed by postoperative restlessness. Children of 10 months or older must be weighed accurately and the weight multiplied by 0.02 to give the required dose. In contradistinction to the procedure in adults, when the injection is completed the catheter is cleared by means of a few cubic centimeters of warm tap water, clamped and left in situ until the child is asleep, as immediate withdrawal may cause expulsion of the fluid. As in adults, the lateral position must be insisted on until the child reaches the operating room. The advantages of the method are that there is complete amnesia of the journey to and from the operating room and for some hours afterward, less inhalation anesthetic is required, postoperative vomiting seems to be less than when inhalation anesthesia alone is used, hexobarbitone soluble is easy to prepare and administer and ejection does not occur, and the method is suitable for combination with local infiltration and block anesthesia. When injecting a local anesthetic into a patient under this form of basal narcosis one should first strap down the limbs, as the patient is liable to move in response to the needle prick. These advantages make the method suitable for service patients under war conditions. The only untoward effects observed have been

restlessness in a few patients, undue respiratory and circulatory depression of 2 patients and possibly prolonged postoperative unconsciousness. The contraindications are those which apply to basal anesthesia in general.

Effect of Potassium Salts on Cardiac Irregularities.—Castleden states that potassium salts caused the extrasystoles associated with insulin hypoglycemia of 1 patient and those of spontaneous origin in 4 to disappear. In 3 of these 5 patients the level of potassium in the serum was estimated, and the disappearance of the extrasystoles was associated with a rise in potassium level. Attempts to produce extrasystoles by the administration of ephedrine were not successful. In contrast with insulin and epinephrine, ephedrine does not produce a consistent fall in the serum potassium. The author warns that since potassium salts have been reported to produce cardiac irregularities in experimental animals and to increase the incidence of extrasystoles and paroxysmal tachycardia in some patients, their action in suppressing extrasystoles cannot be utilized with confidence until further work has clarified the mechanism of these effects.

Glasgow Medical Journal

16:199-230 (Dec.) 1940

- Observations on Nonindustrial Lead Poisoning. J. N. M. Chalmers.—p. 159.

Journal of Hygiene, London

40:615-738 (Dec.) 1940

- Bacteriology of Fresh Water: I. Distribution of Bacteria in English Lakes. C. B. Taylor.—p. 616.
Apparatus for Obtaining Water from Different Depths for Bacteriologic Examination. C. H. Mortimer.—p. 641.
Nosocomial Infections in Children's Wards. Joyce Wright.—p. 647.
Inoculation and Immunity Experiments on Calves with Vole Strain of Acid-Fast Bacillus. A. S. Griffith and T. Dalling, histologic observations by W. Pagel.—p. 673.
Family Coefficient Scale Developed from the Australian Nutrition Survey. F. W. Clements.—p. 681.
Seasonal Fluctuations of Vitamin A and C Content of Palestinian Milks. K. Guggenheim.—p. 690.
Distribution of Vitamin C in Foods Sold on Open Market. Gweneth Chappell.—p. 699.

Medical Journal of Australia, Sydney

1:1-32 (Jan 4) 1941

- Acute Infections of Upper Respiratory Tract in South Australia: Note on "Woodside Throat." Barbara Cooke, Nancy Atkinson, Jessica Mawson and E. W. Hurst.—p. 3.
Infection of Upper Respiratory Tract in Recruits in South Australia: "Woodside Throat" ("Dogs' Disease"). S. L. Seymour.—p. 5.
Influenza Epidemic at Puckapunyal. G. V. Rudd.—p. 7.
Patch Test as Means of Diagnosis in Contact Dermatitis. P. W. Farmer Jr.—p. 9.
Wangensteen-Coller Treatment of Peritonitis, Ileus and Intestinal Obstruction. W. Maxwell.—p. 11.
Some Medical Aspects of Crime. E. P. Dark.—p. 13.

1:33-64 (Jan. 11) 1941

- Bacteriologic Diagnosis of Severe Clostridium Welchii Infection Following Abortion. H. M. Butler.—p. 33.
The Case of the Princess Charlotte. C. Macdonald.—p. 38.
Gas Tensions in Tissues in Physiologic Conditions. E. W. Sibree.—p. 42.
Review of Literature Concerning Hemorrhage in Obstructive Jaundice: Significance of Prothrombin and of Vitamin K Therapy. J. D. Hicks.—p. 46.

Quarterly Journal of Medicine, Oxford

9:247-332 (Oct.) 1940

- Hemorrhagic Diathesis in Idiopathic Steatorrhea: Observations on Its Association with Vitamin K Deficiency. R. Kark, A. W. Souter and J. C. Hayward.—p. 247.
Retinitis Pigmentosa. E. C. Dax.—p. 263.
Preparations of Testosterone in Eunuchism and Hypogonadism. A. W. Spence.—p. 309.
Late Results of Artificial Pneumothorax in Pulmonary Tuberculosis. B. R. Clarke and S. L. W. Erskine.—p. 323.

Tubercle, London

21:341-372 (Aug.-Sept.) 1940

- Routine Examination for Tubercle Bacilli in Sputum. R. A. Hunter.—p. 341.
Guarding of Chest Wall in Hemoptysis. J. Grieve.—p. 360.

Rinascenza Medica, Naples**17:577-604 (Nov. 15) 1940. Partial Index**

Sympathetic Nervous System in Pulmonary Tuberculosis. N. Aliotta. —p. 584.

*Estrogen and Calcium in Menopause. B. Sorrentino.—p. 588.

Estrogen and Calcium in Menopause.—Sorrentino reports satisfactory results with combined treatment of estrogen and calcium in menopausal disorders, especially in cases in which there are nervous hyperexcitability, hypertension and hypocalcemia. The latter is the cause of menopausal vasomotor disorders. He administered three times daily crystallized estrogen up to a total dose of 0.00003 Gm., 0.00025 Gm. of calcium lactate and 0.000005 of sodium bromide. The number of treatments cannot be fixed. The treatment is discontinued on the relief from symptoms. This takes place early in the course of the treatment. Endocrine treatment must not be administered for a longer period than is necessary. In patients with thyroid disturbances it is advisable to administer thyroid along with calcium and estrogen.

Kekkaku, Tokyo**18:685-754 (Aug. 24) 1940. Partial Index**

*Tuberculin Allergy of Patients with Exudative Pleurisy. S. Kanai, S. Arisue and H. Shimidzu.—p. 685.

Tuberculin Allergy in Pleurisy.—Kanai and his co-workers report the results of their observations from the point of view of allergy in over 600 patients with exudative pleurisy. An attempt is made to correlate the data derived from intracutaneous tuberculin tests, erythrocyte sedimentation rates, serial roentgenograms and physical examinations. These investigations are summarized as follows: 1. Exudative pleurisy manifests itself during the hyperergic stage, although it can also occur at the stage in which the tuberculin reaction is weakly positive. The constitutional factor plays an important part in its pathogenesis. 2. Simultaneous with the pleuritic attack, the tuberculin allergy subsides, and the majority of patients are brought to physicians at this stage. 3. During the height of the disease the tuberculin allergy is only weakly positive with a dilution of 1:1,000; a lower dilution is apt to give more strongly positive reactions. 4. The tuberculin test resumes its strong reaction with the absorption of the exudate and the recovery of the patient from the attack. 5. In cases of severe pulmonary tuberculosis, tuberculous polyserositis and meningitis, the tuberculin allergy is not only weakened but frequently negative in reaction. 6. The degree to which the tuberculin test is positive roughly parallels the increased rate of erythrocyte sedimentation. 7. While the majority of patients show positive tuberculin tests on recovery from attacks of pleurisy, there are a few patients whose reaction remains weak. 8. Nephritis frequently complicates the recovery stage of tuberculous pleurisy, coincident with the return of positive tuberculin reactions. 9. In 3 patients with exudative pleurisy the tuberculin test performed by intracutaneous injection of undiluted tuberculin remained completely negative, suggesting a nontuberculous nature of the disease. 10. Repeated tuberculin tests of patients with exudative pleurisy are useful procedures in diagnosis and prognosis.

18:755-932 (Sept. 24) 1940. Partial Index

*Tuberculous Bacilluria in Phthisis. G. Iwamae.—p. 896.

Tuberculous Bacilluria in Phthisis.—Iwamae took cultures of catheterized specimens of urine from 160 patients suffering from pulmonary tuberculosis on Petraghani-Suzuki's medium and obtained positive cultures in 9 cases. In 4 of these patients the complication of urogenital tuberculosis was later demonstrated, either at necropsy or on operation; the remaining 5 patients were in advanced stages of the disease, and the coexistence of urogenital tuberculosis may be presumed. These 9 patients belonged to a group of 26 tuberculous subjects whose urine on laboratory examination gave consistently positive results. Only 1 specimen of the remaining 134 negative urines showed the presence of tubercle bacilli on culture. During the thirteen months of observation, cultures of the urine of the last mentioned patient were taken on six different occasions, with positive results at each trial. Ten months after the first examination his urine began to show some positive results

(albumin and leukocytes) which the author interpreted as being a sign of incipient renal tuberculosis. From these observations Iwamae concludes that the demonstration of tuberculous bacilluria is a diagnostic sign of urogenital tuberculosis.

Acta Medica Scandinavica, Stockholm**105:313-432 (Nov. 14) 1940**

Movements in Lungs During Respiration: Survey of Problems and Description of Apparatus. C. Sonne.—p. 313.

History and Conditions of Life of the West Bothnian Nomad Lapps, Their Food and Health Conditions. S. Ekvall.—p. 329.

*Simmonds' Syndrome: A Review. E. Mogensen.—p. 360.

Simmonds' Syndrome, with Special Reference to Clinical Diagnosis and Hormone Treatment: Three Cases. E. Mogensen.—p. 378.

Renal Complications Following Treatment with Sulfapyridine, with Description of Recovered Case of Anuria. H. Lebel, E. Schroeder and Margrethe Simesen.—p. 395.

Some Cases of Precordial Sounds, Audible at a Distance. J. Frost and J. Bing.—p. 411.

Cutis Verticis Gyrata. S. Radner.—p. 425.

Simmonds' Syndrome.—Mogensen suggests that Simmonds' disease may be caused by any process which destroys the anterior pituitary and that the fundamental morbid process is so varying as to suggest the propriety of the term Simmonds' syndrome. The syndrome is a chronic, progressive disorder due to failing of the endocrine function of the anterior lobe of the pituitary and is characterized by the deficiency symptoms produced thereby. The principal clinical symptoms are loss of weight, asthenia, atrophy of the genital organs with decreased sexual function (in women amenorrhea and in men impotence), loss of the axillary and pubic hairs (in men also the beard), changes in the skin and decreased basal metabolic rate. Hypotonia, hypothermia, bradycardia, hypoglycemia, gastrointestinal disorders, anemia and achlorhydria may also appear. Cachexia is a late phase of the disease and by no means a necessary symptom. If the diagnosis is not made until cachexia appears, it is a late one. The pathologic changes besides those already mentioned are atrophy of the pituitary, skin, sexual glands, thyroid, parathyroids and adrenals. In advanced cases the internal organs are atrophied. The author believes that the main symptoms of the disease may be ascribed to a decreased secretion of the hormones of the anterior pituitary lobe; the loss of weight and the splanchnomelia to lack of the growth hormone; the genital atrophy, loss of hair and presenility to lack of gonadotropic hormones, and hypoglycemia to lack of the diabetogenic hormone. The decreased basal metabolism is possibly due to a decrease of the thyrotropic hormone, but it is also possible that the symptom is due to a decrease in the specific dynamic value of the proteins (Plaut, and Goldzieher and Gordon). The reduced blood pressure may possibly be due to adrenal insufficiency. The anemia is possibly caused by the lack of hemopoietic pituitary hormone or possibly to an existing achlorhydria. Many symptoms of Simmonds' syndrome cannot be as yet explained satisfactorily, as knowledge of the functions of the pituitary is still meager. In the differential diagnosis the conditions that should be considered are pluriglandular insufficiency, myxedema, Addison's disease, eunuchoidism, forms of emaciation terminating in cachexia and especially anorexia nervosa. In general anorexia nervosa has a far more benign course than has Simmonds' disease, and many such patients have recovered within a short time under varying forms of treatment. There are numerous reports of the successful treatment of the disease which were obviously cases of anorexia nervosa. Of the many types of treatment used the most promising results have been obtained with gonadotropic substance from the urine of pregnant women. The author has produced and maintained a pronounced improvement of the general condition and endocrine deficiency symptoms in 2 male patients with Simmonds' disease by intense treatment with gonadotropic substance. In a third patient, a woman, this treatment failed, probably because the ovaries during the long period of disease had no reactive tissue remaining. Treatment of this patient with estrogen was accompanied by partial improvement. In the 2 male patients it has proved necessary to continue the treatment with a maintenance dose. The treatment is not really substitution therapy, as the preparation used is a chorionic hormone, but it seems to replace the lacking gonadotropic hormone. Gonadotropic substance also appears promising for related conditions (pituitary tumors and hypopituitarism), which until recently have been called intractable.

Book Notices

Diseases of the Digestive System. Edited by Sidney A. Portis, B.S., M.D., F.A.C.P., Associate Clinical Professor of Medicine, Rush Medical College of the University of Chicago, Chicago. Cloth. Price, \$10. Pp. 952, with 176 illustrations. Philadelphia: Lea & Febiger, 1941.

This is a textbook on diseases of the digestive system in which every chapter is written by a different man. In many ways this is a good idea, because the field of even one specialty like gastroenterology has become too large to be well covered by one man.

The first chapter is by Ralph Major, who writes on the history of man's acquisition of knowledge in regard to gastrointestinal disease. Then follow a chapter on the anatomy of the tract by De Garis and one on physiology by Necheles. A useful chapter is one on the interpretation of abdominal pain by Chester Jones, who has done research in this field. It is good to see four chapters on the neuroses and the neurogenic disturbances; one of the chapters on the neuroses is written by a psychoanalyst, Franz Alexander. There is a chapter by Kantor on the commonly encountered functional disturbances of the colon and another by Hurst on the so-called mucous colitis.

It is pleasing to see that Dr. Portis has had the wisdom to include chapters on the gastrointestinal manifestations of cardiovascular disease, renal disease, anemia, arthritis, gout and abnormalities in the glands of internal secretion. Actually there are two chapters on the gastrointestinal syndrome associated with disease in the kidneys and bladder. These chapters should serve to remind would-be gastroenterologists that not every patient who complains of stomach trouble has disease in the digestive tract. There is a chapter on the allergic disturbances of digestion, and there is even one on the relation of the teeth to disease in the digestive tract. A discussion of alkalosis and its treatment is modern, and there is a chapter by Wangenstein in which he presents his theories as to the production of acute appendicitis. He believes disease in this organ is produced by an increase in the intraluminal pressure.

The book is well printed and well illustrated, and most of the chapters are well written. Dr. Portis and the publishers are to be congratulated on the completion of so excellent and comprehensive an undertaking.

Leprosy. By Sir Leonard Rogers, K.C.S.I., C.I.E., M.D., and Ernest Muir, C.I.E., M.D., F.R.C.S., Medical Secretary, British Empire Leprosy Relief Association. Second edition. Cloth. Price, \$4.50. Pp. 260, with 81 illustrations. Baltimore: William Wood & Company, 1940.

To a revision of the work of these two well known authorities much knowledge that has accumulated since the publication (1925) of the first edition is added. The preface states that the senior author is mainly responsible for approximately the first half of the book, which covers the history and distribution, epidemiology and communicability, and prophylaxis, while the junior author presents the etiology, clinical aspects and treatment of the disease. However, each author has had the benefit of his colleague's wide experience and extensive knowledge on the subject.

The book presents a vast amount of information on leprosy in a relatively short space. Furthermore, it is presented in a manner that makes it most interesting to lay as well as to medical readers. While it is apparent that the authors believe in the principles of segregation of leprosy patients they point out with laudable impartiality the advantages and disadvantages connected therewith. They also discuss practical measures for meeting problems connected with leprosy, instead of theoretically ideal procedures which have been found in practice to be fraught with uncertainty or failure. Many of the difficulties encountered in the management of leprosy in an individual as well as in a community are discussed frankly and openly.

The only criticism is that in the more technical part of the book the classification and nomenclature adopted by the International Leprosy Congress at Cairo (1938) is used, while in the other part the older nomenclature is employed. If the equivalent terms of each nomenclature could be set forth by means of a short statement presented in tabular form, it would

make less confusion in the minds of nonprofessional readers. Medical readers should have little if any difficulty in this respect.

In the chapter on diagnosis, detailed instructions for taking specimens for bacteriologic examination by both the "snip" and the "scraped incision" method are given. The latter method is easily applicable in the practice of any physician and its description here adds most valuable information to the book. There are four appendixes that give timely information to leprosy workers: (1) preparation of esters of fatty acids of chaulmoogra and other oils for treatment, (2) preparation and application of the lepromin (Mitsuda) test, (3) application of the iodide test, (4) report of the Subcommittee on Epidemiology adopted by the International Leprosy Congress, Cairo, in 1938.

There are ten charts and seventy photographic reproductions illustrating the text, and page references are used freely throughout the work.

The book is recommended for both lay and professional readers who wish to obtain authoritative information on leprosy, a subject that, in the past, has suffered greatly from misinformation, much of which has resulted from traditional beliefs that have been handed down through ages past. The statement that "the disease is probably less infective than tuberculosis" may be surprising to the average reader, but in the light of modern scientific knowledge it is wholly warranted by observed facts.

The book is printed on excellent paper and substantially bound in cloth.

Simplified Diabetic Manual With 163 International Recipes (American, Jewish, French, German, Italian, Armenian, etc.). By Abraham Rudy, M.D., Associate Physician and Chief of the Diabetic Clinic, Beth Israel Hospital, Boston. Introduction by Dr. Frederick M. Allen. Second edition. Cloth. Price, \$2. Pp. 216, with illustrations. New York: M. Barrows & Company, Incorporated, 1940.

The aim of this manual, according to the author, is to make the task of understanding diabetes easier for the patient as well as for all those entrusted with his instruction and welfare. The author feels that the manual not only should be a guide to the patient but should be of valuable help to the busy general practitioner, the dietitian and the nurse. Dr. Frederick M. Allen in his foreword congratulates the author on avoiding fads and reckless extremes of treatment. Many manuals have been written with this laudable intention of aiding physician, nurse and patient all at one time. But the fact always remains that manuals written primarily for the patient cannot be of much practical value to the physician in guiding his therapy and that manuals actually of value to the physician are too technical for the patient. Another reason, of course, why a manual must be chosen carefully, at least, is that the physician may disagree with the author's method of treatment and hence may be put in a doubtful light by the patient perusing the manual. In other words, the patient is placed in a position of "checking up" the physician's treatment with that recommended by the author.

The author confuses the reader by giving much space to detailed examination of the twenty-four hour urine, since he has this to say: "A sugar-free urine is not a sign that the diabetic condition is fully controlled. . . . To get the best results in the treatment of diabetes, we must keep the blood sugar as near to normal as possible." The author in attempting to guide the diabetic patient to cooperate better with the physician incorporates too scientific and too technical material possibly confusing to the patient and liable to distress him to the extent of abandoning further reading: Examples: ". . . one of the important symptoms in diabetes is glycosuria. . . . The test generally employed . . . is called the Benedict test." It is misleading to say "It is . . . important that no person should be declared a diabetic only on the basis of a positive Benedict test in the urine. Usually the patient has or had some symptoms characteristic of diabetes. . . ." True, all persons with a positive Benedict test should be diagnosed as diabetic until further tests or examinations are undertaken by the physician. But it is not true that the patient generally has had previous apparent symptoms. Many diabetic patients have been accidentally discovered in the course of an insurance examination, without any history of diabetic symptoms. There is much discussion of vitamins, diabetes and pregnancy, complications in diabetes, and

deficiency states, all of which, although too technical for the lay reader, is incomplete for the so-called busy physician.

The section on diets is undoubtedly the most valuable part of the manual. The author introduces Jewish, Italian, French, Armenian, German and other national dishes which have the great value of diversifying the rather monotonous diet of most diabetic patients. The amounts permitted are extremely small, but to a gourmet they will be a godsend anyhow. The author avoids fads and reckless extremes of treatment. This conservatism should give the volume a broad field of usefulness among those doctors who agree with the author's ideas of treatment and who are willing to put into the hands of their more literate and intelligent patients a guide that will supplement his oral instructions to them.

Précis d'hygiène. Par Jules Courmont, professeur d'hygiène à la Faculté de médecine de Lyon. Avec la collaboration des Pr Ch. Lesieur et Dr A. Rochaix. Fifth edition revised by A. Rochaix, professeur d'hygiène à Faculté de médecine de Lyon. Boards. Price, \$3.20. Pp. 1,001, with 212 illustrations. Paris: Masson & Cie, 1940.

This edition constitutes a comprehensive revision of the manual. It reflects well the efforts of Professor Rochaix to bring the text of previous editions abreast of recent developments in hygiene, preventive medicine and sanitation. Various aspects of these subjects are presented clearly, concisely and usually in sufficient detail. In making this revision, Rochaix has adhered to the original intention of Courmont in writing a book primarily for the use of advanced medical undergraduates. The improvements and revisions in public health administration introduced into France following the World War are discussed. In this connection demography, sanitary organization and personal, environmental, industrial, social and mental hygiene, epidemiology and prophylaxis of communicable diseases are presented in considerable detail. Among new chapters added are ones on epidemic infectious jaundice, the Rickettsias, the control and prevention of rheumatism, mental disease and prophylaxis, and eugenics. The illustrations appear to be adequate. Those of sanitary appliances reflect design and type applicable especially to France. A comprehensive, specific bibliography is lacking, which detracts considerably from its use by English students of hygiene.

Bone Graft Surgery in Disease, Injury and Deformity. By Fred H. Albee, M.D., LL.D., Sc.D., President, International College of Surgeons. Assisted by Alexander Kushner, M.D., B.Sc. Cloth. Price, \$7.50. Pp. 403, with 297 illustrations. New York & London: D. Appleton-Century Company, Inc., 1940.

This is an excellent book on the technic of bone graft surgery in disease, injury and deformity. It does not lend itself well to a critical review because much of its content deals with detailed discussions of technic. The methods advised by Dr. Albee are ingenious and well described. Nevertheless, they are often intricate and the surgeon who has only a superficial training in bone surgery may well find himself in difficulty when attempting some of the cabinetmaker methods sometimes recommended by Dr. Albee. However, this is no real reason for criticism of the publication. The following quotation from the author's preface pretty well outlines the scope of the book:

It is now over twenty-five years since I set myself to the task of writing the first book published in any language upon the sole subject of bone graft surgery. Since that time, the trustworthiness of such work has been amply proven. Bone graft operations were than relatively new but have since been adopted by the surgical profession the world over, much to the benefit of the patient.

In the present volume there are incorporated those procedures which have stood the test of time, namely those which I have used myself and those which I have not elected to use myself but have included because of their employment by experienced surgeons of mature judgment.

There are some procedures with which many orthopedic surgeons will not agree, such as the resection of malignant bone tumors and immediate restoration of the involved portion of the skeleton by transplanted bone. Being a pioneer, Dr. Albee is more interested in demonstrating that a certain procedure can be carried out than he is in quoting statistics to prove its practicability. There is much sound teaching scattered through the text, as when Dr. Albee draws attention to limitations of tendon transplantation for residual paralysis from infantile paralysis and devotes considerable time to discussing the more reliable stabilization operations on the skeleton. The book is divided into chapters on the general principles of bone

grafting, armamentarium of the orthopedic surgeon, spine fusion, bone graft surgery of ununited fractures, bone graft surgery for replacement of bone, plastic bone graft surgery, arthrodesing bone graft operations and bone block operations. The book is well illustrated, and the index of both authors and subjects is adequate. Any surgeon doing bone graft surgery should not be without this volume; it is a worthy attempt by Dr. Albee to place his experiences in the hands of the profession.

Control of Pain in Dental Practice: A Symposium conducted by the Academy of Stomatology, Philadelphia. Edited under the direction of J. L. T. Appleton, D.D.S., School of Dentistry, University of Pennsylvania, Philadelphia. Cloth. Price, \$3. Pp. 195, with 16 illustrations. Philadelphia, Montreal & London: J. B. Lippincott Company, 1940.

In this symposium on pain the participants represented the fields of anatomy, histology, physiology, psychology and psychiatry, pharmacology, materia medica and operative dentistry. It is in no sense a textbook on anesthesia or pain but is definitely worth reading by those anxious to attain great proficiency in the art of control of pain and by those interested in this subject. It deals with local more than with general anesthesia and is appropriately divided into eight chapters on the basis of the grouping suggested. As stated in the introduction: "the chapters . . . contain much new material, concisely and simply presented"; and especially designed for the "general practitioner of dentistry—his needs, his wants and his interests." But little fault can be found with the subject matter; perhaps it is too concise and too brief. With respect to buffered anesthetic solutions, it seems likely that the clinician discussing their use has never employed them and that his unfavorable opinion of their efficiency is dependent on lack of experience.

Diseases Affecting the Vulva. By Elizabeth Hunt, B.A., M.D., Ch.B. Cloth. Price, \$4. Pp. 215, with 54 illustrations. St. Louis: C. V. Mosby Company, 1940.

This book was written by a dermatologist and not by a gynecologist, as might be expected from the title. There is evidence throughout the book of the author's vast experience with vulval conditions, which the preface states is based on more than 1,000 cases. The book contains thirty-two chapters and completely covers all vulval conditions. The classification of diseases is based as far as possible on etiology. There are separate chapters for lichen planus, leukoplakia and kraurosis vulvae, although there is still controversy concerning the differences among these three conditions. Many dermatologists and gynecologists consider leukoplakic vulvitis and kraurosis vulvae as the same disease. British opinion, however, is in favor of the belief that these are distinct diseases. All the chapters are short but compact and complete. In each one is a fairly extensive section on treatment. The last chapter in the book is devoted entirely to the subject of treatment, and in it is included a discussion of all forms of therapy which may be employed to combat vulval diseases. There is a small but thorough chapter on pruritus, which includes an excellent classification depending on the diverse pathologic conditions responsible for this condition. The book is well written and illustrated. There are eighteen magnificent colored photographic plates which greatly enhance its value. Every dermatologist and gynecologist should possess a copy of the book.

Laboratory Text in Pharmacology. By Robert P. Walton, Professor of Pharmacology, School of Medicine, University of Mississippi, University. Paper. Price, \$1.50. Pp. 85. Philadelphia, Montreal & London: J. B. Lippincott Company, 1940.

This brochure is of interest to students and teachers in experimental pharmacology. The exercises outlined are concisely stated and of sufficient number to demonstrate the fundamental facts concerning the mechanism of drug action. A few of the exercises are gargantuan; for example, to demonstrate the action of carbon monoxide, the author uses an automobile and with a garden hose conducts the gas into a box where the dog is incarcerated. Such an experiment well demonstrates some automobile adventures, but most laboratory workers would find a much simpler method of demonstrating the action of carbon monoxide or of illuminating gases. The student who sees the exercises listed in this book demonstrated or who performs them himself has adequate opportunity to become well grounded in the fundamentals of pharmacology.

Queries and Minor Notes

THE ANSWERS HERE PUBLISHED HAVE BEEN PREPARED BY COMPETENT AUTHORITIES. THEY DO NOT, HOWEVER, REPRESENT THE OPINIONS OF ANY OFFICIAL BODIES UNLESS SPECIFICALLY STATED IN THE REPLY. ANONYMOUS COMMUNICATIONS AND QUERIES ON POSTAL CARDS WILL NOT BE NOTICED. EVERY LETTER MUST CONTAIN THE WRITER'S NAME AND ADDRESS, BUT THESE WILL BE OMITTED ON REQUEST.

CHRONIC RESPIRATORY DISEASE AND VINCENT'S INFECTION

To the Editor:—A white woman aged 40, previously in excellent health, recently suffered a mild attack of influenza. Following this she developed a moderately severe sore throat, an annoying slightly productive cough and an acute laryngitis and tracheobronchitis. The laryngeal and tracheal symptoms responded readily to treatment, but mild bronchial symptoms persisted for about two weeks. Sputum analyses were done showing the predominating organisms to be Vincent's spirochetes and short chain streptococci. Smears and culture from the mouth, gums and pharynx were negative for spirochetes, but smears and cultures from the thick, gloiry sputum were positive for Vincent's organisms. Positive results were obtained for several days, when sputum production ceased. There were also a few eosinophils in the sputum. Her leukocyte count throughout showed a range of from 5,000 to 8,000 cells with 60 per cent neutrophils and an eosinophilia of from 10 to 20 per cent. A history of Strongyloides infestation two years previously was obtained. Investigation showed that this was successfully treated at that time. A series of stools were examined for ova and parasites, with negative results. There was no history of undercooked pork. Since her return from the hospital two weeks ago the low grade fever has persisted, and she has had an annoying dry cough, which seems to be initiated by a tickling in her throat. A tuberculin test has been done which was strongly positive, but stereoneurogenograms of the chest show no evidence of pulmonary disease. The sinuses are perfectly clear, agglutination tests and serologic tests are negative. She is improving gradually and feels well except for easy fatigue and the cough. I would like information on treatment of pulmonary Vincent's infection, whether arsenicals and other heavy metals are used with success, and, if so, what preparations and dosage. Is eosinophilia usual with this type of infection as in bronchial asthma? What is the prognosis in pulmonary Vincent's infection, and does this type ever clear up spontaneously? With gradual improvement and no sputum, is expectant treatment justified? I would appreciate any references to the literature available.

M.D., California.

ANSWER:—The history of the patient as given seems to be characteristic of the mild form of infection of the respiratory tract prevalent during the past few years. There was apparently an attack of influenza or an influenza-like infection, accompanied or followed by laryngitis and tracheobronchitis with the persistence of symptoms of bronchitis. The leukocytes were normal in number and the sputum was small in amount. In many such cases symptoms persist sometimes for several weeks with fatigue and cough. The presence in the sputum of bacteria, which are commonly found even in normal persons, usually has no significance. In the case in question a predominance of Vincent's spirochetes may mean nothing or may indicate that they are able to subsist on tissue injured by some other cause. The significance of eosinophilia is uncertain, but it may indicate a persistence of strongyloidosis.

Strongyloidosis may persist for twenty years or more, and in certain patients the larvae, like those of *Ascaris* worms, may pass through the lungs and give rise to an acute reaction of the tissue, sufficient perhaps to account for some of the symptoms mentioned in the query and which are often mistaken for influenza. Further search should be made to find the larvae in the stool and in the sputum, if any.

"The intravenous injection of arsenicals or the intramuscular administration of bismuth preparations as spirocheticides is of little value and in fact unjustified in any regimen of treatment for Vincent's infection" (Shirazy, E.: Fusospirochetosis [Vincent's Disease], *Internat. Clin.* 2:115, 1940). "As a matter of fact, Vincent's infection has occurred among luetics undergoing heavy arsenical treatment" (Farrell, G. W., and McNichols, W. A.: Efficacy of Various Medicaments in the Treatment of Vincent's Stomatitis, *THE JOURNAL*, Feb. 20, 1937, p. 630).

Since Vincent's infection of the lung seems to depend chiefly, if not entirely, on some preceding disease of the lung which permits its existence, the prognosis depends chiefly on the progress or regress of the primary condition. If the primary condition heals, Vincent's infection will most likely clear up spontaneously. Expectant treatment would seem to be indicated for the patient in question, but search should be continued for its cause if the symptoms and signs persist. Attempts to improve the general health are important.

POSSIBLE CAUSE OF DEATH OF YOUNG MAN DURING SLEEP

To the Editor:—I should appreciate any suggestion as to the cause of death of a man aged 22 who was in previous good health although not robust, with no evidence of heart or lung trouble. He went to bed as usual and was found dead the next morning. The rest of the family heard nothing unusual from an adjoining room. He often slept on his abdomen and this is the position in which he was found, with not over 2 to 3 ounces of blood having run out of his nostril. The limbs were neatly arranged. The anterior part of the face and chest were blue from pooling of blood in the capillaries. There was nothing to suggest suicide.

M.D., Indiana.

ANSWER:—In view of the limited information submitted, only speculative suggestions can be offered to explain the death described. The need of a thorough postmortem examination is strikingly obvious. Excluding all forms of poisoning and immediate violence, the question is what natural conditions might cause the apparently peaceful death in sleep of a man aged 22 without any known indications of disease. Of the more or less latent conditions that might cause rapid death even in young persons are coronary disease; rupture of the heart from, say, gumma in the myocardium; interference with the cardiac conduction systems by fatty or fibrous changes or by hemorrhage, as illustrated by the sudden death under anesthesia of a girl aged 19 years from hemorrhage into the auriculoventricular region; pulmonary embolism from, say, the deep veins in the calf of a leg; massive internal hemorrhage from an unrecognized tuberculous focus in the lungs, from a gastric ulcer or possibly an esophageal varix; intracranial hemorrhage from rupture of an aneurysm of a cerebral vessel or from a "silent" glioma; subdural hemorrhage from a relatively slight, perhaps even overlooked, trauma; sudden pressure effects of a so far "silent" brain tumor. In view of the fact that the victim went to bed "as usual," it seems reasonable to exclude an acute infectious process as the cause of death. It is to be noted, however, that certain forms of acute myocarditis, of acute bulbar encephalitis, of acute pharyngitis with edema of the glottis, and of septicemia may run an extremely rapid fatal course. But what about the statement that "not over 2 to 3 ounces of blood had run out of the nose"? Was this pure blood or a bloody fluid? If the latter it could have been the result of pulmonary congestion and edema coupled with the postural settling of the blood in the vessels of the face and nasopharyngeal lining, but if it is granted that it was pure blood then the cause of the bleeding requires consideration. The blood may have come from hemorrhage, as mentioned, in the digestive or respiratory tract, but it is also possible that it resulted from an incidental, simple nose-bleed, whatever the cause of death may have been. Finally, sudden or rapid death may take place in an epileptic convulsion, particularly in the case of young persons with the so-called lymphatic constitution. In the case under consideration, however, the apparent absence of bleeding from the mouth (from biting the tongue) and the "neat" arrangement of the limbs do not support the possibility of an epileptic death.

VAN DEN BERGH REACTION FOR JAUNDICE—BLOOD PROTHROMBIN ESTIMATION—HEPATIC FUNCTION TESTS PRECEDING OPERATION

To the Editor:—Is the van den Bergh reaction valuable in differentiating jaundice of obstructive character from jaundice from acute hepatitis? How is blood prothrombin estimated. What is the normal level? What essential laboratory tests do you consider necessary as routine in all cases in which gallbladder or duct surgery is anticipated? Is blood cholesterol estimation of value?

M.D., Washington.

ANSWER:—The van den Bergh reaction is direct (that is, a color develops immediately on the addition of Ehrlich's diazo reagent to blood serum) in both hepatogenous jaundice and that produced by extrahepatic biliary obstruction. In the former type of case the direct reaction may develop rather slowly (the so-called delayed direct reaction), but the distinction is not often sharp enough to be clinically useful.

A quantitative determination of prothrombin in blood plasma may be made by the two stage method of Warner, Brinkhous and Smith (A Quantitative Study on Blood Clotting: Prothrombin Fluctuations Under Experimental Conditions, *Am. J. Physiol.* 114:667 [Feb.] 1936). The normal is reckoned as 100 per cent, and results in the plasma under investigation are given in percentages of the normal. A simpler method which is much more generally used is that of Quick, Stanley-Brown and Bancroft (A Study of the Coagulation Defect in Hemophilia and in Jaundice, *Am. J. M. Sc.* 190:501 [Oct.] 1935); it consists in the determination of the clotting time of plasma to which has been added an optimal quantity of calcium and a fixed amount of thromboplastic substance prepared from rabbit brain emulsion.

Normal plasma clots under these circumstances in about twenty seconds; in the presence of prothrombin deficiency the clotting time may be greatly prolonged. By making serial dilutions of the plasma to be tested, one can obtain a good quantitative estimation of the degree of deficiency (Kark, Robert, and Lozner, E. L.: Nutritional Deficiency of Vitamin K in Man: A Study of Four Nonjaundiced Patients with Dietary Deficiency, *Lancet* 2:1162 [Dec. 2] 1939). A simple bedside method based on the same principles as Quick's procedure is that of Ziffren, Owen, Hoffman and Smith (Control of Vitamin K Therapy: Compensatory Mechanisms at Low Prothrombin Levels, *Proc. Soc. Exper. Biol. & Med.* 40:595 [April] 1939); it is also reported in percentages of normal. All the methods, especially the first mentioned, present technical problems, and the original articles should be consulted for details.

There are actually no specific tests for hepatic function which need to be performed routinely on all patients to be subjected to surgical operation on the gallbladder or bile ducts. For persons who are not jaundiced at the time of examination, only such laboratory studies as clinical judgment would dictate in the individual case are necessary; if the patient previously has had repeated episodes of biliary obstruction and obstructive biliary cirrhosis is suspected, a bromsulphalein test may be recommended as an index of the operative risk. For visibly jaundiced patients it is customary to determine the level of serum bilirubin and the prothrombin clotting time; if the former is more than 10 mg. per hundred cubic centimeters it may be wise to perform a hippuric acid test of hepatic function and, if the amounts eliminated are reduced to 50 per cent of normal or less, the risk of operation may be assumed to be increased (Quick, A. J.: The Synthesis of Hippuric Acid: A New Test of Liver Function, *Ann. J. M. Sc.* 185:630 [May] 1933). If the prothrombin clotting time is prolonged, therapy with vitamin K or one of its synthetic analogues is indicated. The combination of measurable hepatic damage (as determined by the hippuric acid test) and prothrombin deficiency requires special preoperative and postoperative care. In such cases a determination of blood cholesterol and cholesterol esters may give useful information. Normally, biliary obstruction produces a considerable elevation of both substances; if investigation reveals material reduction of cholesterol and esters in the presence of jaundice, a considerable degree of damage to the parenchyma of the liver may be assumed. The appraisal of probable hepatic damage induced by obstruction to biliary flow is a complex and difficult matter, and some of the numerous recent articles on preoperative and postoperative care of jaundiced patients should be consulted for further details.

VENOUS THROMBOSIS AFTER TYPHUS

To the Editor:—I recently treated a man for typhus fever of rather typical course except that after the patient's general improvement he had a severe pruritus of the chest, abdomen, back and upper extremities. This finally cleared up. During the third week of his illness he began to notice some edema of the left ankle region. This receded when the extremity was elevated. However, when the patient was allowed out of bed the entire extremity quickly became swollen. He has now been out of bed for about two weeks. Swelling diminishes greatly each night, but within a few minutes after standing in the morning swelling becomes evident from the toes to the groin. Physical therapy has been of no value and he is now being supplied with a rubber stocking extending from the toes to the upper end of the thigh. How often does such a sequel appear in typhus fever and what treatment would you suggest?

M.D., Georgia.

ANSWER:—This description seems to fit a thrombosis of one of the larger veins of the leg. Thrombosis of the smaller vessels is an almost constant feature of typhus and, while thrombosis of the larger vessels is not so common, it is by no means unknown.

In this case it would appear that one of the larger leg veins was the site of a thrombophlebitic process. From the description it is impossible to say whether it is the femoral or one of the iliac veins.

As far as management is concerned, the first requirement is to make sure that the active phlebitic process has subsided. A smoldering activity may persist for weeks, and there is danger that a fragment may get into the circulation and produce a pulmonary embolism. If this dangerous accident does not occur, there is the possibility of progression upward of the inflammatory process. If the phlebitis and thrombosis extend into the vena cava, the circulation in the other leg will be impeded.

It is often difficult to be sure that a phlebitis has become quiescent. The temperature should be carefully watched, and the slightest degree of fever should be considered evidence of activity. Any tenderness about the vein should be sought for.

Rectal examination might be helpful. The erythrocyte sedimentation rate should approximate normal before activity can be ruled out. A leukocytosis should be regarded with suspicion.

If activity can be ruled out it is likely that the present management of supporting the circulation with an elastic stocking is the best one. Any surgical intervention should be carefully weighed and at best is a highly technical procedure. Any manipulation should be avoided.

BROWN DISCHARGE PRECEDING MENSTRUAL FLOW

To the Editor:—Several of my patients, subsequent to treatment of the cervix and uterine canal with the actual cautery, have had an annoying brown discharge from the cervix, which precedes menstruation for from two to five days. In none of the cases has there been a stenosis of the canal nor does further dilation of the canal improve the condition. The uterus and adnexa have appeared normal in outline and position. Is this a common occurrence? Have you an explanation for it or any suggestion as to treatment.

M.D., Alabama.

ANSWER:—The occurrence of a brown discharge from the cervix for one or more days before the actual menstrual flow begins is not uncommon. The discharge is the result of mild bleeding, which usually has its origin in the cervical canal but may arise within the uterine cavity. It usually occurs without the intervention of cautery treatment. In fact, in some cases it ceases after the electric cautery is applied to the cervix. The exact etiology of the brown discharge is unknown, but in some cases mild inflammation of the cervix is responsible, and in others cervical polyps are the source. In many cases the discharge ceases spontaneously after a few months.

ERYTHEMA OF FACE

To the Editor:—A woman aged 45, who has had several attacks of allergic dermatitis, has also a chronic complaint of ten years' duration that is new to me. This is a sharply defined erythema of the cheeks, chin and tip of the nose, associated with sensations of tingling and heat in those areas, occurring every night about 8 o'clock, and persisting for about an hour. It appears nightly regardless of diet, occupation or activity, whether the patient is at home or dining out or on a trip; no correlation with any external factor can be made. The patient does not use cosmetics. The condition has not been affected in any way by the menopause, which was three years ago. When the erythema is absent, the involved areas appear entirely normal except for a few dilated vessels on the alae nasi. I should appreciate any suggestions as to diagnosis and treatment.

Leonard Nelken, M.D., Clinton, Iowa.

ANSWER:—From the few facts given, one is impressed by the history of a sharply defined acute erythematous eruption "involving the cheeks, chin and tip of the nose" of short duration, and occurring each night. The statement "The patient does not use cosmetics" must be taken with reserve for any woman in this era. The fact that a "few dilated vessels of the alae nasi" are present when the erythema is absent suggests that the telangiectasia might be the residuum of a previous acne rosacea, which could well occur in a woman of 45 and make this area more vulnerable for the development of an external irritant dermatitis, e. g. from soap or cosmetics. Soap used by the patient in washing her face in the evening could well be the irritant, and the matter of soaps should be carefully gone into, with patch testing. The history of the use of cosmetics should be carefully rechecked, with patch testing of all her present cosmetics if the other suggestions given fail.

For a good general discussion of the role of soaps in the etiology of dermatitis, and methods for its prevention see article and discussion on Dermatitis of the Hands in Housewives, by James W. Jordon, Frank A. Dolce and Earl D. Osborne, *THE JOURNAL*, Sept. 21, 1940, page 1001.

ARTERIAL EMBOLISM FROM INTRAGLUTEAL INJECTION

To the Editor:—In *Queries and Minor Notes* of Feb. 22, 1941, there is described under the heading of "Pain and Echar After Intragluteal Injection" what apparently corresponds to typical instances of arterial embolism. This accident has been reported in the literature as following a variety of injected agents, chiefly oil-suspended bismuth salts but also water-soluble mercurials (Carley, P. S., and Morgan, A. G.: *Ven. Dis. Inform.* 17:281 [Oct.] 1936) and other medicaments such as "quicamphol" (Sulzberger, M. B., and Boer, R. L.: *Am. J. Syph., Gonorr. & Ven. Dis.* 24:50 [Jan.] 1940). The fact that no blood was aspirated, while severe pain and shock almost immediately supervened, does not exclude the likelihood of an intra-arterial injection but instead suggests that only the point of the needle entered the arterial wall, the force of the injected mass of solution then causing penetration into the lumen, followed by symptoms of embolism. Wise and Sulzberger estimated the frequency of this accident as once in every ten thousand intramuscular injections in spite of rigid adherence to the proper technic.

Carmen C. Thomas, M.D., Philadelphia.

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SELECTIVE SERVICE AND PSYCHI- ATRIC ISSUES

C. MACFIE CAMPBELL, M.D.
BOSTON

The late Colonel Salmon in the last war had to break the news to a divisional officer who was having a trying time that a psychiatrist was being attached to the division. The officer asked Dr. Salmon how one spelled psychiatrist and what sort of creature he was. He then broke out "H . . . , haven't I trouble enough already?" The end of the story was, however, that they lived happily ever after, or at least that the commanding officer came to appreciate the work of the psychiatrist.

The ordinary citizen, like the divisional officer, has a very hazy idea as to the nature of psychiatry and as to what the psychiatrist does or tries to do. The scope of the psychiatrist's work is not very clear to many of his medical colleagues. Etymology suggests that he has something to do with the mind; as the mind is imponderable and invisible the work of the psychiatrist seems more abstract than the work of those physicians who deal with what can be seen under a microscope, be poured into a test tube or throw shadows on a roentgenogram.

As a matter of fact, the psychiatrist does not deal with disembodied spirit; he deals with persons, with individual human beings, with people who are in some sort of trouble, who are either distressed themselves or causing distress to others by various complaints or by some change in their behavior or in their attitude toward life. The challenge to the psychiatrist, therefore, is something very concrete, a human being in trouble. The internist, faced with a patient, may abstract from the fulness of the concrete situation and concentrate on the behavior of the heart or another organ; the psychiatrist has to concern himself with the behavior and the welfare of the person as a whole.

The psychiatrist has to make the usual physical examination, for unusual behavior or ideas or emotions may be due to underlying bodily disease. A depressed or irritable condition may be due to an abscess at the root of a tooth; irrational behavior may be due to too little sugar in the blood. But even with sound teeth and ample supplies an individual may become depressed or abnormally jealous or see slights, hostility and accusations where none exist; he may be hampered by morbid fears or strange tricks of thought. He may commit misdemeanors. He may even have the greatest variety of bodily complaints while all the delicate methods of modern medicine fail to reveal any objective disorder.

These same delicate methods carry one only a certain distance in the study of the patient, for the patient is not merely a physiologic preparation, a complicated system of chemical and physiologic forces; he is a human individual endowed with instincts and emotions, molded by his past experiences and enmeshed in a complicated social and cultural environment.

With due attention to the complexities of human nature, the physician often solves problems of his patients which elude him as long as he considers the patient as merely an animal in an experimental laboratory.

This point of view applies to other fields than that of medicine; it applies to the whole field of human relations. It is of equal validity in time of peace and in time of war; it applies to the army as well as to civilian society. The specialist preoccupied with the technical aspects of his own field is apt to neglect the basic facts of human nature; as the physician sometimes neglects the patient while he studies the disease, so the teacher may see the pedagogic unit, not the child; the manufacturer may think in terms of the economic unit, not of the actual John Smith at his bench; the army officer, with his emphasis on discipline and technical training may not be aware of the complicated system of forces in the individual human being with the regimental number and the standard uniform.

Concentration on the study of nervous and mental disorders may seem to disqualify the psychiatrist from giving advice in regard to the varied difficulties which the ordinary person meets in the manifold situations of everyday life. There is a widespread tendency to look on those who have nervous or mental symptoms as being somewhat different in their essential organization from the so-called normal person. The normal person, however, is merely one whose inner difficulties are covered by the usual veneer of conventional behavior. It is only when this veneer is stripped off either through the disturbing effects of illness or through voluntary effort in the consulting room that the basic forces of human nature can be systematically studied. A nervous or mental upset simply reveals the workings of our common humanity. We have learned much from our nervous and mental patients, especially as to those factors in the human personality which are so commonly repressed and ignored but which still exert a powerful influence; facts as to the instinctive basis of our life and as to the profound influence of early experiences. So it has been customary to compare our mental life with the iceberg, the greater bulk of which is unseen beneath the surface; in both cases the submerged factors may be fraught with danger.

When the psychiatrist has studied the physical condition and the disturbed personality of a person he has still not completed his survey, and to complete it he has to go further afield. The patient does not exist as an isolated unit; he cannot be understood as such.

We are "every one members one of another." The individual lives in a community or a social group, and the cultural atmosphere is shot through with forces and values and beliefs. In his daily activity the individual is a member of one or more groups, loosely or strictly organized, each with its own code and beliefs and habits, traditions and loyalties. The satisfactions of the individual, his stability and his efficiency depend not only on his bodily condition and individual experiences but on his relationship with his fellows in these various groups.

The importance for the individual of the interpersonal forces within the group is seen in family life, in neighborhood gangs, in industry and in commerce, in the army at peace and in war, in religious, political, social and cultural associations. In emphasizing the importance of morale, of loyalty, of tradition and social solidarity we pay tribute to this factor in our community life.

These remarks give some idea of the attitude and procedure of the psychiatrist when dealing with the individual. His experience helps him to a certain extent to detect those persons who, on account of the instability or inadequacy or sensitivity of the personality, are specially vulnerable and unlikely to meet as well as their fellows the conditions of army life, whether during the period of training or in combatant service. On this account the Selective Service System makes its present demands on the psychiatrist. The present seminar with its various sessions has been organized in order that the task of the psychiatrist may be carried out as efficiently as possible. The discussions in the special sessions are largely of a technical nature dealing with the specific task of selecting for the army men as free as possible from any indications of personal instability or inadequacy. The practical significance of this task is clearly illustrated by General Pershing's cable from France in July 1918:

Prevalence of mental disorders in replacement troops recently received suggests urgent importance of intensive efforts in eliminating mentally unfit from organization's new draft prior to departure from the United States.

While the foregoing is the immediate and specific practical demand made on the psychiatrist by the Selective Service System, the information gathered by the system furnishes food for thought about our social organization in general. The data on other types of disability have also acted as a challenge. It is astonishing to find how often the condition of the teeth disqualifies the registrant. Are the resources of the community for safeguarding the teeth of young people inadequate, or if not why are the available resources not fully utilized? The rejection of registrants on account of nervous or mental instability or vulnerability raises similar but much more complex questions. Perhaps the latter may seem somewhat remote from the immediate practical task of the Selective Service System, but the more concrete and specific details of that task are being taken up in the other sessions. In a general session one may perhaps be permitted to present a few general impressions and considerations suggested by the Selective Service System.

The aim of the system is to furnish the army with the best material available; its primary interest is the efficiency of the army. When the registrants who are chosen are inducted into the army, the army accepts responsibility for them, gives them a systematic training and has an opportunity of studying further the

individual soldier. His new life involves separation from family, uncertainty about home affairs, close association with a large group of strangers, unfamiliar routine, strict discipline, automatic obedience and unaccustomed restriction of spontaneity and originality. There is also the anticipation of future dangers and horrors, of combatant activity which conflicts with the familiar civilian code. The soldier takes with him to camp his own personal preoccupations, private difficulties, undigested memories. In the army under the close inspection of noncommissioned officers, line officers and medical officers and in close contact with his fellows any mild deviation of mood or behavior or attitude is liable to be reported and psychiatric advice made available if necessary.

Thus a soldier, moody and inefficient, attracted the attention of an officer. An interview with the psychiatrist revealed that this man, working in camp as assistant to a kitchen worker, had been in civilian life a well paid salesman. He had accepted his allotted task in the army without overt protest, but his unconscious reaction had been a loss of alertness and initiative. A change of job transformed him rapidly into an energetic worker and promising soldier. Another soldier showed similar inefficiency and lack of attention and of interest, with vague nervous symptoms. He was a college graduate doing rather inappropriate work without complaint. When given a task more in keeping with his capacity he proved efficient and was soon promoted. The army is not a clinic and emphatically disclaims any desire to receive any patients under the guise of soldiers; nevertheless, it has the opportunity of dealing with many of the worries and difficulties of the soldiers and of helping them to a sound and sane view of their own problems.

At the same time that the soldier is becoming physically hardened and acquiring technical skill he is establishing a relationship with his fellows and with his officers which is of the greatest importance for the efficiency of the army. This relationship means that to a certain extent he loses his isolated individuality and becomes part of a group to whose emotions and behavior he tends to be extremely responsive, and from this identification with the group he derives support and courage. This relation to comrades and officers in the setting of a common enterprise is of the essence of morale. It means an efficient social solidarity, largely unconscious, not based explicitly on any particular formula or recognized mutual benefits.

Army morale and civilian morale are not two different problems, they are two aspects of the broad problem of national morale. Attention to the needs of the individual personality and to the development of group loyalty, so essential in the army, is of equal importance in the civilian community, in the home, the school, the factory and the neighborhood. While the Selective Service System tends to focus attention on the needs of the army it is well to keep in mind the intimate bonds between the army and civilian life. The peace of mind of the civilian depends on his confidence in the national defense; the efficiency of the army depends on the output of the factories, which reflects the social solidarity of the civilian workers.

The individual soldier is not altogether detached from the civilian life of the community; he is still responsive to the emotional values and opinions and behavior of his neighborhood, his family, his fellow workers, his social group, his church. He brings with him to camp attitudes and beliefs acquired in his home, at his job, in his social contacts. He expects to resume his place in

the community after the period of training in the army is over. The immediate setting of his life in the army does not exclusively determine his outlook, his measure of personal satisfaction and his feeling of social solidarity. Friction in the home, strikes and recriminations in industry, economic injustice, racial and religious conflicts, accusations and suspicions in the political arena—the echoes of these are wafted into the peaceful atmosphere of the camp and trouble the peace of mind of the recruit with uneasy doubts and suspicions.

Even in a time of national emergency, and in special consideration of this very emergency, it seems important to pay attention to the selectees of the second group, in other words to the civilian population, and to consider whether the same principles which apply to the selectees of the first group, i. e. those in the army, may not profitably be applied to the civilians. There seems to be all the more reason for emphasizing principles of sound individual and social health in view of the fact that their application is equally important in peace and war, in normal times and in times of emergency. They are the principles which do justice to the fundamental values of human life. If the army of selectees is expected to defend our way of life, it devolves on the community at large to do all that is possible to make that way of life worth defending.

In times of peace the inertia of many a community and its indifference to and neglect of mental hygiene are striking. The national emergency is a challenge; if the community is thereby awakened to its responsibility in the field of mental hygiene, if its emotions are stirred and its resolve quickened, then the national emergency may be as much of a boon in promoting the mental welfare as in improving the physique of the community.

For the selectee in the army there is a certain supervision of his total program as well as supervision of his specific vocational program. There is some recognition of the need of the individual selectee for self expression, intellectual pabulum, recreation and social contacts. It is realized that the peace of mind of the individual may be disturbed by the urge of the instincts, by inner tensions and conflicts, by disturbing preoccupations, by undigested memories. It is found useful to give the recruit and his supervisors some simple information about the human personality, about the instincts and the emotions, about repression and the varied manifestations of repressed factors. It is considered that with this information the soldier will be better able to face combat situations and less likely to misinterpret or exploit transitory symptoms. Through such instruction the soldier learns to face honestly the role played by fear in human nature, accepts its existence without shame and at the same time recognizes his responsibility for subordinating fear to loyalty to his unit.

To the selectee of the second group, that is, to the ordinary civilian in the community, male or female, child or adult, how can the same principles of mental hygiene be applied as to the selectee in the army? The national emergency is a challenge to those in civilian authority and to those of public spirit to show an effective interest in the needs of the ordinary individual for self expression and personal recognition, for school or adult education, for recreation and social contacts. The ordinary civilian, like the soldier, needs some simple knowledge of human nature in its personal aspects; he, too, is better able to conduct his life and to meet emergencies if he knows something of the role of the emotions and instincts and of the influence of repressed

factors on human conduct. In the interest of the soldier the conflict between the instinct of self preservation and the herd instinct, a conflict which is the fertile source of war neuroses, deserves frank discussion; in the interest of the civilian the conflict between the sexual instinct and loyalty to the ethical demands of the group, a conflict equally productive of peace neuroses, deserves the same frank treatment. In the army incipient signs of a troubled or a frustrated personality may be noted by alert noncommissioned officers, line officers or medical officers and receive early and appropriate treatment; in civilian life much human misery might be alleviated and human wastage prevented if there were the same alertness to the signs of human distress on the part of all those in positions of supervision or authority, whether in the home or in the school, in commerce or in industry, on the land or in the town, in production or in management, in education or in administration. If all such persons in supervisory positions were indoctrinated with some knowledge of the needs of the human personality and of the signs of its being in trouble, then the same early attention could be given to the personality disorders, the nervous and mental symptoms, of the civilian selectee as the army strives to give to the soldier selectee. For the dissemination of the relevant information one would enlist the cooperation of the medical practitioner (whether working in private practice, hospital, school or factory), the district nurse, the welfare worker, the teacher, the clergyman, the employer of labor.

In this program one should be able to count on the earnest cooperation of state and local departments of health, public welfare, education and mental hygiene as well as on the pioneering activity of voluntary organizations interested in these topics. The press and the radio are powerful instruments. When those who direct the community life are seriously interested in guaranteeing to the individual civilian safeguards and facilities for the welfare of his personality comparable to those offered the army selectee, it will be possible to begin a practical program of education and to organize the resources (clinical, recreational, educational and social) which the mental health of the community requires.

The army takes care of the well-being of the individual selectee and pays attention to those factors which make out of a mass of men an organic whole infused with one moving spirit (*esprit de corps*). It is equally important for the civilian authorities, while solicitous of the needs of the individual, to cherish jealously those forces which bind individuals into organic groups inspired by common purposes and ideals.

The family is the model of such an organic group. If one thinks of the human race living in friendly relations which bring profit to each group and do justice to the diverse needs of the various groups, we speak of a family of nations. If we wish to refer to any group, whether industrial or social, as being knit together by particularly intimate bonds, we are apt to compare it to a family. It is in the setting of the family that the human individual serves his apprenticeship in the art of social life. The experiences of the child within the family circle leave the deepest impression on the personality of the adult and are fraught with weal and woe for his individual destiny and for his value to the community.

The selectee in the army is still organically connected with the family group; his well-being and personal outlook influence the life of each member of the family group, while the atmosphere of the family, with its

special traditions, code, loyalties, affections, continues to have its influence on the peace of mind, the satisfaction and the stability of the selectee. The national emergency emphasizes the importance of the family for the development of the individual personality and of group loyalty, and the interaction between the individual selectee and the home from which he comes may have an important influence both on the morale of the soldier and on the morale of the family.

It seems a reasonable task to survey more systematically the situation, to learn a little more about the atmosphere and the special values in the homes of the community, to consider whether detrimental factors are prevalent and what resources are available for dealing with them.

Much effort is spent in giving parents elementary information about nutrition and infection; it is as important for the welfare of the children that parents know something about their personality needs. Man does not live by bread alone, and there are moral as well as bacterial infections; an unwholesome mental atmosphere may coexist with open windows.

In the small social system of the family the essential needs of the child are the same as those of the military selectee; they include affection, recognition, the right to self expression, a feeling of group membership and some grasp of a common purpose or code. The parent in the interest of the welfare of the child may learn to limit the "don'ts," so often the unintelligent frustration of natural trends. He may be encouraged to give the child the tools for developing the child's own skills and interests. He may give the child no occasion for unwholesome repression, utilizing the child's interest and questions for open and frank discussion. Helpful instruction of parents may prevent feelings of inferiority, guilt, resentment, frustration and insecurity laying down their roots in childhood.

Disharmony in the home, absence of tolerance and affection, undue repression of the child may make it difficult for that child when grown up to establish a proper relation to his fellows and a sound attitude toward the representatives of the established order. The adult difficulty may express itself in the factory as in the regiment, in the religious as in the political field. The individual may pride himself on his antagonism to authority or his preference for the radical and the heterodox as evidence of his adult emancipation, while these traits may really represent the persistence of a childhood attitude, an attitude appropriate to the early situation of the special home but perhaps quite inappropriate to the realities of the actual adult situation.

One need not think that a community program of parental education is an impractical suggestion. There are many avenues of approach to the family. The family is organically connected to the wider community in various ways, through occupational contacts, school contacts, nursing associations, settlements, boy scouts and girl guides, neighborhood activities of various types, quite apart from such sources of information as church, press, radio and film.

The state may have no comprehensive system for supervising the mental welfare of the individual adult or the hygienic conditions of the individual home, but each individual when of school age comes under the influence of a selective service system of considerable antiquity.

The recent selective service system established under the spur of national emergency insists that all men of a certain age shall register for a certain amount of

training in the interest of national defense. The school system has long insisted that all individuals of a certain age, male and female, shall register for a period of training in order to meet the responsibilities of peace. It is perhaps even more important that the community shall be prepared for peace than for war.

As the army in the training of its selectees does not concentrate exclusively on vocational training but realizes the importance of self knowledge, self expression, social recognition and group loyalty, so in the training of its selectees for peace the school system may do well to emphasize the same factors. The teacher must be willing to give the child honest information about the basic instinctive forces and to afford him or her the necessary material and opportunities for creative activity, and must help the child to establish his own place in the school community and to learn the significance of team work. The teacher should be at least as sensitive as a sergeant to moods and misdemeanors and is perhaps even better equipped to give supervision and counsel. The morale of the classroom and the playground may reinforce or correct that of the home, and the school period be a valuable preparation for the tasks of life. In the right school atmosphere a child will feel the kindly interest of the teacher and a friendly bond with schoolmates; he will feel free to express his own interests, subject to the restriction due to the equal rights of others; he will feel that he belongs to a group to which he owes loyalty, and he will neither use nor be exposed to terms which suggest racial, religious, social or economic inferiority. The schoolbooks which he uses will give an example of that fairness, open-mindedness and objectivity which are conditions of a wholesome mind and of sound community organization.

If the school is to live up to its opportunities teachers must have a training appropriate to their duties, for on the personality and the insight of the teachers depends the value of the school as a preparation for life. Leaders of the community, whether in official or unofficial positions, will therefore vigorously support any measures which promise a wiser selection and better training of teachers, as the army studies how best to select and train its officers.

When the individual has passed from the tutelage of the home and the school and takes up his independent economic activity, are there any special organizations which may have for the civilian selectee some of the solicitude which the army has for the military selectee? At once we are struck by the enormous opportunities for community service open to industrial organizations, already so efficiently utilized by some, a community service not measured in terms of production but in terms of human values. Emphasis by industry on human values has an influence which is not limited within the factory walls but ramifies widely into the community. Simple knowledge of health and procedures familiar to the worker in the factory are carried by him into the home. Similarly, a wholesome mental attitude in the factory may foster in the home an equally healthy atmosphere of frankness, friendly confidence and mutual consideration.

As neuroses, neglected in civilian garb, became a matter of national importance when clothed in khaki, so the health of factory workers in Great Britain, neglected in times of peace, became a matter of national concern when these same workers were employed in the production of munitions. The Industrial Health Research Board of 1930 received its original impetus from the study of the health of workers in munitions factories

in 1915. During the last few decades there has been a stirring of conscience in industry and a growing insight into the needs of the individual worker. It is fortunate that the welfare of the worker and the interests of production run parallel. Thus the psychologist at a plant had as his primary aim "to see that the workers leave the plant at night neither fatigued nor irritated nor nervous"; the executive had the psychologist there because, as he explained, "I find it pays." Another factory thought fit to allot to each new employee a sponsor as a college does to its freshmen, thus establishing from the beginning a wholesome personal relationship of the individual worker with the group. The importance of some attention to the personal needs of the human individual was ruefully recognized by one executive after an expensive strike due to the special ambition of one worker: "I suppose we ought to have fired him or to have promoted him." The neglect to give that man earlier the prestige or recognition he craved had been costly.

Much attention in the past has been given to questions of lighting, ventilation, noise, economy of movement in the individual task, to methods of payment and to the problems of fatigue and monotony. It is only recently that attention has been specially directed to the personal preoccupations of the individual worker, to his relationship with his fellow workers, to the importance of group fellowship both for the personal stability and for the efficiency of the worker. To be treated like a human being and not like a cog in a machine, to feel that one is an integral member of a social group with its own special role, to have the chance to unburden oneself to a sympathetic listener, whether the origin of the trouble is in the home or in the factory—these are conditions which satisfy some of the deepest needs of human nature. The results established by the prolonged research of the Western Electric Company have shown the great importance of these principles in industry, but it is difficult to overestimate their profound importance for social organization in general, both in peace and in war. The level of the national morale, both in the army and in the civilian population, will largely depend on the extent to which those principles are adequately grasped and efficiently applied. They are of the essence of social solidarity.

The foregoing discussion of civilian and army morale emphasizes respect for the individual personality and a due appreciation of the bonds which transform a number of separate persons into a living whole.

It devolves on civic leaders and on all public-spirited persons to see how far these same principles can be woven into the fabric of everyday life of the community, whether in peace or in war. The task of the individual worker should have some relation to his or her capacity and interest; recreational facilities should be adequate, social contacts fostered and intellectual and esthetic needs met. In a community which rejects regimentation and imposed uniformity, mutual understanding and tolerance are essential for the growth of social solidarity. Facts must be honestly faced and ventilated if a satisfactory solution of difficulties is to be found. There should be no blindness to the disagreeable, no wishful thinking; inequality and injustice must be admitted and racial, economic, social and religious differences squarely faced. Friendly cooperation will not be advanced by seeing only the weakness of others or by mutual recriminations. Slogans must be more than magic words. In the interest of the whole community the individual group

may be willing to subject itself to psychologic and social scrutiny corresponding to the individual psychologic analysis which so often brings in remarkable returns.

The same principles which are of value in regard to the individual, the family, the nation are relevant to the stability of international relations. Self knowledge, mutual understanding and tolerance are essential to wholesome and stable relations.

It is evident that in the establishment, the formulation, the dissemination and the application of the foregoing basic principles the medical profession has a unique responsibility and a unique opportunity for social service. To live up to its responsibility and to utilize its opportunity, it must accept fully the implications of the fact that health adequately conceived includes the health of the human personality.

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MATERNAL MORTALITY IN NORTH DAKOTA

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Editorial comment¹ on United States infant and maternal mortality rates in *THE JOURNAL* opened with this significant statement: "Maternal mortality rates of the United States have been reported and discussed for several years apparently to conjure conclusions designed to throw discredit on the medical profession." I agree with the Editor that such conclusions have been drawn. I submit the record made by North Dakota physicians to prove, for my state at least, that they are fallacious.

North Dakota held the enviable position of having the lowest maternal mortality rate in the United States for 1938, 2.4 per thousand live births. The provisional rate for 1939 is 2.3. In a report² to the North Dakota State Medical Association I stated: "The problem of maintaining this low rate or even of lowering it still further is our problem as private practitioners. I believe that the private physician in North Dakota is assuming the leadership in maternal care that is rightfully his and the response that the physicians of this state have given our Committee on Maternal and Child Welfare in its attempts to further your educational program is most heartening."

To date there have been three stages to the "educational program" since the maternal and child welfare committee was first appointed by the North Dakota State Medical Association in 1935. The first consisted of talks on obstetric subjects given by members of the committee before the component district medical societies of the North Dakota State Medical Association. These talks stressed the importance of the fatal triad infections, toxemia and hemorrhage. The second stage consisted of the presentation of lectures on obstetric and pediatric subjects by visiting clinicians at various centers throughout the state. In a representative year, 1939, one hundred and ninety-eight physicians registered for these courses in the ten cities in which they were given. The clinicians, selected by a subcommittee of the maternal and child welfare committee, were chosen because of their teaching ability and their familiarity with clinical

1. United States Infant and Maternal Mortality Rates, Editorial, *J. A. M. A.* 114: 963 (March 16) 1940.

2. Moore, J. H.: Maternal Mortality in North Dakota, *Journal-Lancet* 59: 420 (Oct.) 1939.

cal obstetrics and pediatrics, and in each instance the choice was a most happy one. The program is now in its third stage, which consists of postgraduate courses in obstetrics and pediatrics for North Dakota physicians at the Center for Continuation Study at the University of Minnesota. The last of these courses, given in

TABLE 1.—Maternal Mortality in North Dakota *

Year	Total Deaths	Rate per Thousand	Three Main Causes			
1924.....	81	5.7	Puerperal sepsis			
1925.....	89	6.2	Abortions			
1926.....	64	4.3	Toxemias			
1927.....	75	5.1				
1928.....	86	5.7				
1929.....	80	5.5				
1930.....	86	5.8				
1931.....	70	4.9				
1932.....	62	4.4				
1933.....	65	4.9				
1934.....	69	4.7				
Number of Deaths, Five Year Period 1935-1939 Selected Causes						
			Puerperal Sepsis Without Abortions	Abortions With Sepsis	Toxemias	
1935.....	73	5.3	25	12	10	
1936.....	58	4.3	18	8	11	
1937.....	59	4.7	15	6	14	
1938.....	31	2.4	4	7	13	
1939 (provisional)....	30	2.3	3	6	7	

* Figures from the U. S. Bureau of the Census.

November 1940, brought the North Dakota registrations to sixty-three.

The financing of the second and third stages of the program has been from funds obtained from the Maternal and Child Hygiene Division of the United States Department of Labor through the North Dakota State Department of Health. The state health officer, Dr. Maysil M. Williams, was appointed secretary of the North Dakota Committee on Maternal and Child Welfare, and this committee, representing the North Dakota State Medical Association, accepted an invitation to become the Maternal and Child Health Advisory Committee to the North Dakota State Department of Health, with the result that the most harmonious relationship exists between organized medicine and the state health department in this important field of maternal and child welfare. The leadership of the private physician has not once been challenged or usurped by any official of the state health department. There has been a growing demand on the part of physicians for places in the courses offered at the University of Minnesota. Selection of the physicians to attend these courses is made through the district medical societies in any manner which these societies desire, and all sections of the state have been represented.

The leadership in the field of maternal and child welfare remains in the hands of the private physicians in North Dakota. Is that leadership adequate?

Maternal mortality rates should not be the only criteria by which one should judge the adequacy of maternal care; but they are the most dramatic and certainly the most easily available. The physicians of North Dakota are not satisfied with the present rates, low as they are. I have discussed this question with many of them, and it is their feeling that it is not impossible to visualize the time when not more than 1 woman in 1,000 will die as the result of pregnancy or labor. The leadership in the private practice of medicine is adequate to accomplish just that! Meanwhile let those who would challenge the leadership of organized medicine point to a better record to substantiate their claims. Table 1³ shows what has happened within the five year period

1935-1939 with regard to certain selected causes of maternal mortality.

In reviewing the histories of the patients who had fatal toxemias of pregnancy in 1938 and 1939, our historian reported that of the 13 who died in 1938 5 had had some form of major operative procedure to effect delivery from below and 1 had had a cesarean section, whereas among the 7 who died of toxemia in 1939 there was not 1 instance of accouchement forcé or cesarean section. The figures, to be sure, are small, but the trend toward conservatism is unmistakable.

Is the pregnant woman turning to other agencies for obstetric care in North Dakota or does she have faith in her private physician? An unprejudiced answer is found in the comparative data obtained by preschool conferences conducted by the North Dakota State Department of Health, as given in table 2.

The midwife has no official status in North Dakota. The term is used to include all of those, exclusive of licensed physicians, who conducted deliveries. It will be noted that the percentage of deliveries conducted by such persons was almost constant in the years sampled; likewise, that the percentage of labors conducted by physicians during the same years was, almost constant. Women in preschool conferences talk freely to the attendants, the public health nurses; therefore there can be no bias in the information obtained in the last line of table 2. If antepartum care is one of the criteria by which the efficacy of obstetric practice can be measured it would appear that the pregnant woman in North Dakota is not turning to other agencies for obstetric advice but is relying on her private physician to supply it. Forty-seven per cent of the women interviewed in 1929 made at least one visit to their physician during pregnancy; but of the 83 per cent who consulted their physician in 1939 54 per cent began their antepartum care in the first trimester and 30 per cent in the second trimester, and only 16 per cent waited until some time in the third trimester to consult him.

The pregnant woman in North Dakota has retained her faith in her private physician, and, especially among the younger pregnant women, antepartum care is being sought and given earlier in pregnancy.

Can the private physician be trusted with the problems of maternal welfare without recourse to the socialization of medical practice? This question is of great economic importance from the point of view both of the patient and the physician. In March 1940 a subcommittee of the North Dakota Maternal and Child Welfare

TABLE 2.—Comparative Data Obtained by Preschool Conferences

	1929		1937		1937		1939	
	No.	%	No.	%	No.	%	No.	%
Total attendance.....	6,726		5,193		7,531		6,092	
Number of mothers.....	4,591		3,532		5,005		4,030	
Physician for delivery.....	6,369	94	4,747	91	6,962	92	5,577	92
Midwife for delivery.....	357	6	312	6	367	5	329	5
Antepartum care (at least one visit to physician)....	3,054	47	3,679	70	5,636	75	5,041	83

Committee, with Dr. Paul W. Freise, of Bismarck, as its chairman, undertook a study of the economics of obstetric practice in North Dakota. Four hundred and sixty questionnaires with explanatory letters were sent out to the physicians of the state, and one hundred and thirty-six replies were received. The answers of one hundred and eighteen physicians were complete and formed the basis of this survey. The complete report is worth the study of every one interested in the economics

3. This table was prepared by the Maternal and Child Hygiene Division of the North Dakota State Department of Health.

of medical practice, but the high lights of it which deal with the answer to the foregoing question are as follows:

1. The one hundred and eighteen physicians attended 5,505 private patients in childbirth in North Dakota from Jan. 1, 1939 through Dec. 31, 1939. Fifty and five-tenths per cent of these private patients paid in full for the services of their physician, and 18.7 per cent of them paid nothing. The remainder paid in part for the services rendered.

2. Eighty-eight physicians reported that they were paid for the obstetric care of 938 patients out of public funds.

3. The largest fee received by any one physician for attending a private patient at birth in a hospital was \$60 and the smallest \$20, and the average for ninety-five physicians reporting deliveries in hospitals was \$30.50. For deliveries in homes the largest fee received by any one physician was \$50 and the smallest \$15, and the average fee of one hundred and ten physicians for private patients delivered at home was \$28.

4. The largest fee received by any one physician from public funds for a delivery was \$32.50 and the smallest \$8.90; the average was \$16.05.

The private physician in North Dakota can be trusted with the problems of maternal welfare without recourse to the socialization of medical practice. He has met the challenge of diminishing financial returns by increasingly effective service to his maternity patients.

North Dakota is one of the most rural states in the nation. Of the original one hundred and thirty-six replies which Dr. Freise's committee received, only twenty-six came from cities of 10,000 or more population, seventeen from cities of 5,000 to 10,000 and ninety-three from the small towns or rural areas of the state. There are no exclusively maternity hospitals in the state, although the general hospitals are developing well organized and well equipped maternity departments in increasing numbers. The small maternity homes and community hospitals which grow up around the practices of many rural physicians are, for the most part, steadily improving the type of maternity care they render. But in the last analysis it is the individual care that the private physician is able to give his maternity patient that determines her safety.

COMMENT

Three questions dealing with the problem of maternal mortality in North Dakota have been answered. North Dakota physicians have maintained their leadership in the field of maternal care, and they have demonstrated that, in this rural state, they have increased the value of that leadership through the American way of private medical practice. The economic burden to the physician has often been heavy, but it has been carried without making the physician a government employee. The pregnant patient in North Dakota is seeking the advice of her private physician earlier in pregnancy, and she apparently feels that he can be trusted with the problems of maternal welfare without recourse to the socialization of medical practice.

CONCLUSIONS

1. North Dakota had the lowest maternal mortality rate in the United States for 1938, and the rate for 1939 is provisionally lower.

2. An educational program by and for physicians of North Dakota during the past five years has been jointly sponsored by the North Dakota State Medical Association and the North Dakota State Department of Health

along lines which have increased the prestige of the private physician and the confidence of the patient in him.

3. The significant decline in maternal mortality in North Dakota justifies the conclusion that private medical practice, by its insistence on the personal relationship which must exist between patient and physician, has made another valuable contribution to the safety of American democracy.

322 De Mers Avenue.

THE STRUCTURAL SIGNIFICANCE OF THE ILEOCECAL VALVE

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AND

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A suction tube introduced into the duodenum usually relieves abdominal distention in cases of obstruction of the small intestine. Introduction of a suction tube into the duodenum may partially relieve the abdominal distention when the colon is obstructed. We have been interested in the variability of the relief produced by the use of suction tubes in cases of obstruction of the colon. In order to determine the cause of this variability we have studied the mechanism which separates the small intestine from the colon.

At the present time the most widely accepted opinion is that the cecum is separated from the small intestine by a sphincter muscle. An alternative, and the less popular, opinion is that the cecum is separated from the small intestine by a valve.

We have examined more than seventy-five specimens of the ileocecal portion of the intestine obtained at necropsy. The general size, shape and structure of each specimen were observed. After cleansing the lumen of the lower part of the ileum, cecum and ascending colon, we tested each specimen. Air and water passed from the ileum to the cecum without difficulty in all specimens. In about half of the specimens neither air nor water would pass in the reverse direction, that is, from the cecum to the small intestine. Pressures of 50 or 60 cm. of water could be obtained without leakage of water through to the small intestine if rupture of the cecum did not occur. In some of the specimens, water pressures of about 10 to 30 cm. could be obtained but with constant leakage.

As has been stated, all the specimens were obtained at necropsy and often had been stored in the ice box before examination. In such a specimen all possible nerve influences and sphincter effects can be disregarded. The sufficiency or insufficiency of the ileocecal valve then would seem to depend on its structure. Valves that were determined to be sufficient were dried and others were sectioned for study in order to determine the position and structure of their parts. There was a definite relation between the shape and development of the cecum and the sufficiency and structure of the valve. As shown in figure 1, a competent ileocecal valve consists of a superior and an inferior segment. These are fused to each other at each end and are continuous with the frenulum of the valve.

From the Division of Medicine the Mayo Clinic (Dr. Wakefield).

Read before the Section on Gastro-Enterology and Proctology at the Ninety-First Annual Session of the American Medical Association, New York, June 13, 1940.

When the cecum is distended the orifice is slitlike and lies with its long axis anteroposteriorly on the medial wall of the cecum. The frenulum, the superior and inferior segments and the slitlike orifice are demonstrable only if the cecum is examined in the distended state. If the cecum is opened and examined in the fresh state there appears a large papillary eminence with a rounded orifice on the medial wall of the cecum and the frenulum is hidden in the collapsed folds of the intestine. The specimens which proved to be insufficient on testing by passing air and water from the cecum into the small intestine all had one common feature, that is, they were shaped like the cecum of a fetus.

In the development of the cecum the valve frenulum first appears on the posterior side of the orifice of the ileum and later, as the cecum develops, the anterior portion of the frenulum appears. The frenulum is actually formed by a fold or invagination (much like a haustrum) on the wall of the cecum at the point where it joins the ileum. On the external surface of

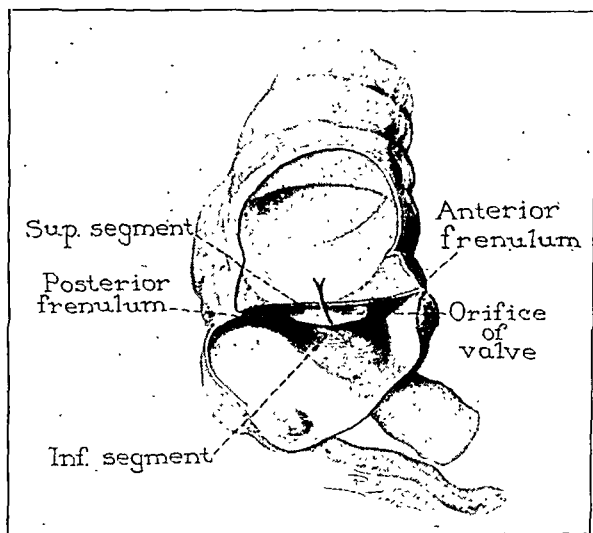


Fig. 1.—Competent ileocecal valve in a distended and dried cecum.

the cecum this fold is represented by a deep crease on the cecal wall, which extends transversely from the ileocecal junction to beyond the anterior and posterior taeniae. The extent and depth of this crease is therefore a good criterion by which to estimate the completeness and extent of the frenulum. This crease is well defined only when the valve is competent. In a cecum which has a competent valve the base of the appendix lies at the level of and slightly posterior to the ileocecal junction. This shift of the true base of the cecum, which is represented in the fetus as the base of the appendix, is due almost entirely to the medial wall of the cecum becoming invaginated about the terminal portion of the ileum. It is this invagination which forms the valve and the frenulum. The invagination is most complete in a cecum containing a competent valve, because much of the medial wall of the cecum must be used in the formation of the valve and thus the base of the cecum is drawn upward and medially.

Deficiency of the frenulum is characteristic of the fetal ileocecal valve. Numerous fetal and infantile shaped cecums obtained at necropsy from adults have been tested by passing air and water from the cecum to the ileum. All have proved to be insufficient, and when opened and examined it was found that they had

poorly developed valves. The similarity of the ileocecal valves in these poorly developed specimens was striking (fig. 2). The absence of a frenulum or deficiency of one of its portions is always associated with an incompetent valve.

It was observed that the taeniae of the cecum lend considerable support to the frenulum of the ileocecal valve. The medial taenia plays an especially important role by stiffening the base of the valve.

The manner in which the competent valve functions is simple. As the cecum distends, the frenulum becomes increasingly prominent and taut and the circular orifice is drawn into a slitlike opening. The two valve segments are thus elevated and tightly approximated, and the orifice is effectively closed. If the medial taenia is torn near the ileocecal junction, a competent ileocecal valve is usually rendered incompetent. The competent ileocecal valve is very strong; it is stronger than any portion of the cecal wall.

CLINICAL CONSIDERATION

Roentgenologists can usually visualize the terminal portion of the ileum with a barium sulfate enema, but in about 10 per cent of cases it is impossible to visualize the ileum by this means. Manipulation with resulting distortion of the cecum is frequently relied on to force barium into the ileum.

In two cases in which high colonic stomas had been formed we were able to introduce large tubes into the ascending colon. Inflatable balloons were attached near the end of the tubes and inflation of the balloon through a second tube closed the lumen. The cecums were then distended with a thin mixture of barium and observed with the roentgenoscope. Pressures of 50 cm. of water were obtained in the cecum without demonstrating the incompetence of the valve (no manipulation was attempted). In one case, as soon as the barium entered the cecum a small amount was seen to escape into the terminal portion of the ileum, whence it was carried proximally by retrograde peristalsis. When the cecum became distended, no more barium could be seen to enter the terminal portion of the ileum. This pressure was maintained for from five to ten minutes without retrograde flow.

These observations illustrate that considerable pressure may be attained in the cecum following an obstruction of the large bowel. These pressures, when obtained, are probably considerably higher than the venous pressure in the colon. These pressures, if maintained, could readily lead to gangrene and perforation of the cecum.

The following case illustrates the ordinary sequence of events in perforation of the cecum:

CASE 1.—A woman aged 64, who registered at the Mayo Clinic in 1936, was found to have a tumor in the pelvis, and biopsy of a cervical lymph node disclosed a lymphosarcoma. She was seen at various times and roentgen therapy was administered. She returned to the clinic Jan. 18, 1939, complaining of weakness, dizziness and crampy pain across the abdomen. The pain had been present for three or four days. She had vomited once. Four weeks prior to this visit to the clinic the patient had become constipated, and two weeks later she had noted diarrhea with blood and mucus in the frequent small stools. One week prior to her registration she had had a rectal hemorrhage. Obstipation had been present since then. Catharsis and enemas did not produce any relief. She was decidedly emaciated when examined. The abdomen was considerably distended and tender; muscle rigidity was present in both lower quadrants of the abdomen. An irregular huge fixed mass filled the entire pelvis. Treatment with saline laxatives and enemas relieved

the obstruction. Roentgen therapy was again employed. On January 29 the patient was hospitalized because of increasing weakness, abdominal pain and distention. Obstipation again had developed. Some relief was obtained by the use of nasal suction and conservative medical treatment. On February 5 the abdominal pain increased and was now referred to the epigastrium. The patient died in a state of shock.

Necropsy disclosed gas and fecal material in the peritoneal cavity. There was little or no distention of the small intestine. The cecum was greatly dilated and hypertrophied; it was 10 cm. in diameter. Its base was turned upward and was near the gall-bladder. The entire base was gangrenous, and a perforation was found at this site. The remainder of the colon was greatly dilated, and an obstructing carcinoma was found in the rectosigmoid. Microscopic examination revealed thinning and inflammation of the intestinal wall at the site of the perforation.

The use of intestinal suction tubes in cases of obstruction of the colon must be considered in the light of the competent mechanical ileocecal valve. The introduction of a long intestinal tube for decompression of the large bowel can be successful only if the tube is inserted beyond the ileocecal valve. Introduction as far as the terminal portion of the ileum will offer no chance of decompressing the colon if the ileocecal valve is competent. This is just as true if only duodenal suction is employed.

The following case illustrates the effect of duodenal suction in successfully decompressing the small bowel without decompressing the colon:

CASE 2.—A man aged 75, who came to the clinic June 13, 1939, had suffered from constipation for two weeks previously. At first this had been relieved by enemas, but, for the last few days before the patient came to the clinic, enemas and other measures had not produced any relief. For four days before his registration the patient had vomited black vomitus. The Wangenstein method of intestinal suction had been employed. When the patient was examined at the clinic he appeared to be acutely ill. The abdomen was greatly distended and tympanitic. There was a fecal odor to the breath. Peristalsis was visible over the abdomen. Rales were audible in the right lung. Duodenal suction, intravenous administration of fluids, application of stupes and the use of enemas produced only slight relief. The next day the patient experienced a sudden severe attack of pain in the epigastrium. Peristalsis was not audible and the patient died in a state of shock in three hours. At necropsy gas and feces were present in the peritoneal cavity. The coils of small bowel were only moderately distended but the entire colon was greatly distended. A perforation was found on the anterior surface of the cecum. A carcinoma was obstructing the lumen of the rectosigmoid.

The use of a long intestinal suction tube for treatment of colonic obstruction is fraught with considerable danger. The tube must enter the cecum to decompress the colon effectively, and the presence of solid material in this portion of the bowel will quickly clog the tube. If the tube remains in the ileum, effective decompression of the cecum may not be obtained.

CASE 3.—A woman aged 55, who registered at the clinic July 19, 1939, had begun to have attacks of acute cramping pain in the lower part of the abdomen in May 1939. The attacks usually had occurred about an hour before meals and had lasted about two hours. She had had two attacks on successive days and morphine had been required for relief. She had been nauseated and had had mild pain for about a week. In July 1939 she had had a repetition of the previous attack with abdominal distention. Enemas had produced only slight relief. On examination the abdomen was found to be considerably distended. Proctoscopic examination revealed nothing abnormal. A roentgenogram of the abdomen made on July 23 revealed considerable gas in the large and small bowel. Distention increased and the Miller-Abbott tube was inserted July 23. It was demonstrated to be

in the midportion of the ileum the next day. Slight drainage was obtained by the tube. On the afternoon of July 24 the patient's condition rapidly became worse and an emergency cecostomy was performed. It was noted that although the colon was greatly distended there was practically no distention of the small bowel. The patient died shortly afterward. At necropsy free fluid and fecal matter were found in the peritoneal cavity. The cecum was edematous and there were five perforations in the midanterior wall. There was an obstructing carcinoma in the midportion of the sigmoid.

In this case adequate decompression of the small bowel was obtained with the long intestinal tube. Nevertheless the cecum remained distended. It lost its viability, and perforation occurred before cecostomy was performed.

It is possible for the small bowel to be distended even though the obstruction is in the colon and the ileocecal valve is competent. The distention occurs because of secondary obstruction at the site of the ileocecal valve. The pressure in the cecum becomes so great that the ileum is not sufficiently powerful to force its contents

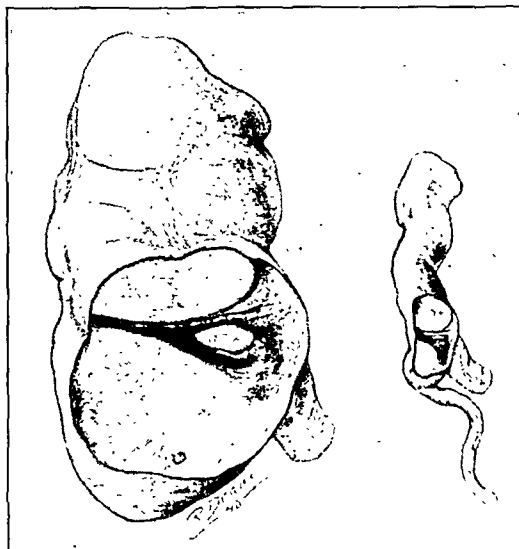


Fig. 2.—Cecum and ileocecal valve of an adult and of an infant. In both of these valves the anterior frenulum is lacking. This accounts for the incompetence of the valves.

into the cecum. The distention of the small bowel thus occurs secondarily to that in the large bowel. Intubation and decompression of the distended small intestine will produce great relief for a time without relieving the dangerous distention of the cecum and colon.

The introduction of the suction tube into the small intestine may decrease the possibility of relieving obstruction of the colon by the administration of saline laxatives. Even if the tube is "clamped off" at intervals, when the suction is again applied the saline laxative and the intestinal fluid attracted by the laxative will be removed. In cases in which distention has progressed to the point where intermittent ileus exists, intestinal suction should be employed for a few hours to decompress the small bowel if the condition of the patient is good. This will protect the small bowel from the effects of venous stasis, permit a more rational surgical approach and allow the establishment of a colonic stoma below the cecum. It is in such cases that careful observation and judgment must be employed. The great relief experienced by the patient because of the decompression of the small intestine must not be allowed to mask a dangerously distended cecum. Often,

however, the employment of suction concomitant with and following surgical decompression will quickly restore the intestine to a functional state. Enterostomy or direct decompression of the bowel at any point proximal to the ileocecal valve may not decompress the colon even though the small bowel is adequately decompressed.

CASE 4.—A man aged 46, who registered at the clinic June 12, 1939, had had a severe attack of vomiting in December 1938 and had fainted. He also had noted severe distress after eating; this had been associated with nausea and epigastric pain. He had lost 35 pounds (16 Kg.). On examination he was found to be greatly emaciated and anemic. Roentgenoscopy disclosed gas in the colon and small bowel and some residue of barium in the colon from a barium sulfate meal which had been given previously. A roentgenogram of the abdomen made on June 15 revealed considerable gas in the large and small bowel. Intubation was not successful and exploratory laparotomy was undertaken. As soon as the abdomen was opened a large distended loop of ileum prolapsed into the wound and enterostomy was performed at this site. The patient felt well for a short time, but twenty-four hours after operation he was seized with severe cramping abdominal pain and chills. He failed rapidly and died about sixty hours after operation. Necropsy revealed a large carcinoma of the stomach which had invaded the mesocolon and obstructed the colon at its splenic flexure. The colon proximal to this site was greatly distended to the ileocecal valve. The small bowel was not unduly distended. The cecum had perforated at the site of a large ulcer. There were several smaller ulcers on the cecal wall.

Occasionally so much damage to the bowel wall has occurred that surgical decompression may be too late to relieve the pressure and restore the intestinal wall to a viable state:

CASE 5.—A woman aged 66, who registered at the clinic April 11, 1939, for the past three months had constipation which had alternated with diarrhea. For two months she had noted bright red blood in her stools. During the past five days she had become gradually more constipated and had had increasing abdominal distention with cramping abdominal pain and vomiting. The day prior to her registration she had had severe, sharp pain in the right lower abdominal quadrant with extreme tenderness and rigidity. The patient was emaciated, and the abdomen was tense and distended. There was a bulging mass in the right lower quadrant (cecum) which was very tender. A large fungating mass could be felt in the anterior wall of the rectum. Cecostomy was performed shortly after her admission and brownish fluid was noted in the peritoneal cavity. The patient died about forty hours after operation in a state of collapse with obvious peritonitis.

At necropsy fecal fluid was found in the peritoneal cavity. The cecum was distended and was gangrenous to a large extent. There was a perforation on the anterior wall. A carcinoma was found obstructing the sigmoid.

If the cecum becomes too greatly distended, it may rupture when the abdomen is opened. The following case illustrates this fact:

CASE 6.—A man aged 62, who registered at the clinic July 8, 1938, had noted a change in his bowel habit for the past year. Defecation had become more frequent and the stools had been soft and small. There had also been bloating and intermittent colicky pain. Enemas and passage of gas had produced relief. For the last three weeks prior to his registration he had felt much worse, and during the last week obstipation had been present. He had had nausea and vomiting for two days. Barium sulfate had been administered elsewhere. On examination the abdomen was found to be distended and tympanitic. Very little peristalsis was heard. A mass was felt high in the rectal fossa. Proctoscopic examination disclosed a carcinoma obstructing the rectosigmoid. A roentgenogram of the abdomen, made July 11, revealed distention of the colon. A duodenal tube was inserted and was at the third portion of the duodenum July 13.

The condition of the patient continued to become worse and the abdominal distention increased. Cecostomy was performed July 15. As the abdomen was opened a whistling noise was heard and gas escaped into the incision. A gangrenous perforation was observed in the cecum. The patient recovered satisfactorily and later underwent resection of the rectosigmoid for the carcinoma.

SUMMARY

The ileum and the colon in man are often separated by a one-way mechanical valve when the cecum is distended. The competent valve has a constant structure. Varying degrees of incompetence are associated with regular demonstrable structural differences of the valve. These structural differences are the result of variations in development. In cases of obstruction of the colon the intestinal suction tube should be used cautiously. The relief obtained by decompression of the small bowel in cases of colonic obstruction must not be allowed to mask a dangerously distended cecum. Surgical intervention is indicated when conservative medical measures fail to decompress the obstructed colon.

ABSTRACT OF DISCUSSION

DR. ERNEST H. GAITHER, Baltimore: The unique method of studies instituted by these investigators will prove helpful in bringing about a better understanding of the mechanism which has to do with the production of symptoms in obstructive lesions of the small and large intestine. They furnish an explanation of the functioning of an incompetent valve on a thoroughly established and skilfully worked out basis which is original. These authors prove the close relationship of the anatomic formation they have described to intestinal processes and subsequent symptoms. They point out that severe pressure may be attained in the cecum following an obstruction of the large bowel, thus causing a closed loop, and, if this pressure is maintained, gangrene and perforation of the cecum may ensue. They assert that the introduction of a long intestinal tube for decompression of the large bowel can be successful only if the tube is inserted beyond the ileocecal valve. We are warned that the use of a long intestinal suction tube for treatment of colonic obstruction is fraught with danger, because the tube must enter the cecum to decompress the colon effectively, and the presence of solid material in this portion of the bowel will quickly clog the tube. They emphasize the important clinical fact that it is possible for the small bowel to be distended even though the obstruction is in the colon and the ileocecal valve is competent, and that the distention occurs because of secondary obstruction at the site of the ileocecal valve. The pressure in the cecum becomes so great that the ileum is not sufficiently powerful to force its contents into the cecum. The distention of the small bowel thus occurs secondarily to that in the large bowel. Intubation and decompression of the distended small intestine will produce great relief only for a time, without relieving the dangerous distention of the cecum and colon. We are warned that the relief experienced by the patient because of the decompression of the small intestine must not be allowed to mask a dangerously distended cecum. The authors sound a most timely warning when they insist that surgical intervention is indicated when conservative medical measures fail to decompress the obstructed colon. The clinical histories presented prove the difficulty of anticipating and diagnosing correctly the actual disease entity and its site in cases in which carcinomatous growth of the intestinal tract is ultimately proved.

DR. JACOB M. RAVID, New York: The work of Drs. Wakefield and Friedell is of fundamental importance. For a number of years I have been interested in the problem of perforation of the intestine, and especially the colon, which is due not to any intrinsic lesion within the intestine at the site of perforation but as a result of distention caused secondarily by an obstructive lesion situated distally. This type of perforation, which was first described and correctly interpreted by Heschl

in 1880, has escaped the attention of most of the American observers. It is to be called a "distention" or "diastatic" perforation, which is meant to imply that the perforation may take place in an otherwise more or less normal intestine and is the result mainly of mechanical factors. It is in this respect that the work of Drs. Wakefield and Friedell is so interesting. For, whether the cecum or any segment distal to it will perforate or not, in the presence of an obstructive lesion distal to it, depends on the competence or incompetence of the ileocecal valve. If this valve is competent, the chances of a non-relieved distention and perforation of the cecum are great, while, if it is incompetent, the intestinal contents will regurgitate through it and thus perforation will less likely take place. I should like to ask the authors whether they have any statistical studies with regard to the competence or incompetence of the ileocecal valve. As far as I could gather from the literature, in only about 10 per cent is the ileocecal valve incompetent.

DR. E. G. WAKEFIELD, Rochester, Minn.: I have nothing further to add except to answer the question that, until we have studied a lot more specimens than we have, I don't think we should give any figures as to the number of competent and incompetent valves. We can say from what we have seen that approximately 50 per cent have been competent.

TREATMENT OF AMYOTROPHIC LATERAL SCLEROSIS WITH VITAMIN E (ALPHA-TOCOPHEROL)

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Following the pioneer work of Evans and Burr,¹ who demonstrated that both male and female rats ceased to grow on diets deficient in vitamin E, many reports appeared in the subsequent ten years confirming these investigators' findings in various animals and clarifying the pathologic basis of the paralysis noted. Pappenheimer and Goettsch² produced paralysis, ataxia and tremors in growing chicks, ducks and rabbits following diets deficient in vitamin E, and Blumberg³ likewise was able to obtain retardation of growth in young rats at the twelfth to the fourteenth week, with complete cessation at from eighteen to twenty-two weeks; the aforementioned conditions were completely corrected when vitamin E, in the form of wheat germ oil, was added to the diet. Interest in the effects of vitamin E was further increased when Ringsted⁴ produced paresis in more mature rats on a diet deficient in vitamin E which did not occur in animals who received a similar diet with the addition of wheat germ oil. Burr, Brown and Moseley⁵ obtained

similar results in mature rats but could not cure the resulting paralysis of the rats' hind limbs by the addition of large doses of vitamin E. Various other investigators⁶ corroborated the foregoing experimental observations. The paralyzes were thought to be in the nature of either muscular dystrophy or encephalomalacia until Einarson and Ringsted⁷ were able to show that lesions developed in the posterior columns and anterior horn cells of the spinal cords of mature rats kept on a diet deficient in vitamin E. Since, as they pointed out, the pyramidal tract in the rat is situated in the dorsal and not the lateral column of the spinal cord, as it is in man, Einarson and Ringsted suggested a possible relationship between the experimental results that they were able to produce and the clinical syndrome in man recognized as amyotrophic lateral sclerosis.

Clinically, the theories as to a possible etiologic relationship between a vitamin E deficiency in the diet and amyotrophic lateral sclerosis in man were first put to the test independently by Bicknell⁸ and Wechsler.⁹ Though Bicknell was primarily interested in the beneficial effect of vitamin E on the muscular dystrophies of children, obtaining favorable results in 12 of 13 cases, he also had the opportunity of treating 4 patients with amyotrophic lateral sclerosis with this vitamin. He felt that the condition of 2 of his 4 patients was arrested by this therapy, although the other 2 patients, in whom the condition was more advanced, showed no improvement and died. Wechsler,⁹ using alpha-tocopherol (the potent factor of vitamin E, synthetically produced), obtained a remission in 1 case of early amyotrophic lateral sclerosis and improvement in a case of more advanced sclerosis, noting that in the latter case the atrophy and fibrillations of the patient's tongue had disappeared and her general strength increased. In both the foregoing series of cases, vitamin E was administered orally. Wechsler, however, commented in his article that because of possible poor absorbability in the gastrointestinal tract it would be advisable to administer this vitamin parenterally in a future series. Lastly, Spies and Vilter¹⁰ observed that synthetic alpha-tocopherol has a beneficial effect on an occasional patient with amyotrophic lateral sclerosis.

In view of this solid experimental background and the encouraging clinical reports of Bicknell, Wechsler and Spies, we thought it advisable to test the therapeutic efficiency of vitamin E in a larger series of cases, by oral as well as by the parenteral use of alpha-tocopherol.¹¹

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9. Wechsler, I. S.: Recovery in Amyotrophic Lateral Sclerosis Treated with Tocopherols (Vitamin E), *J. A. M. A.* **114**: 948 (March 16) 1940.

10. Spies, T. D., and Vilter, R. W.: A Note on the Effect of Alpha Tocopherol (Vitamin E) in Human Nutrition, *South. M. J.* **33**: 663 (June) 1940.

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INVESTIGATION

Eleven patients with amyotrophic lateral sclerosis were carefully observed in the neurologic wards at Bellevue Hospital and our diagnosis was corroborated by at least two of the members of the staff. Most of the patients were admitted to the wards of the service so that more accurate control and observation could be maintained. All, except one who died in three weeks, were treated for at least one month with vitamin E, no other medication being given except a routine high vitamin diet customarily served in the hospital. The vitamin E was administered to the majority of patients

in the series were observed to become progressively worse in their illness while under treatment despite large doses of vitamin E. One of these patients in particular, showing minimal symptoms at the onset of treatment and receiving one of the largest total amounts of vitamin E in the series (over 7,000 mg. of alpha-tocopherol), gradually became more and more paralyzed while under observation for a three months period. Whereas on admission she was able to walk comfortably about the ward, when discharged she was in a practically bedridden state. The remaining 7 patients showed no objective or subjective improvement whatever at

Treatment of Amyotrophic Lateral Sclerosis with Alpha-Tocopherol

Case	Age	Sex	Duration of Illness	Symptoms	Duration of Treatment, Days	Total Amount of Alpha-Tocopherol Administered, Mg.	Results	Comment
1	47	♀	7 yrs.	Spastic paraplegia bilateral Babinski reflex; atrophy of hands; fibrillations; hyperactive deep reflexes; atrophy of tongue; dysarthria	31	3,880	No subjective or objective improvement	
2	57	♂	3 yrs.	Atrophy and fibrillations of tongue and arms; hyperactive deep reflexes; spastic legs; bilateral Babinski reflex	31	3,802	No improvement	Subjective improvement at onset, later denied; no subjective or objective improvement when treatment was discontinued or replaced by placebo
3	36	♂	2 yrs.	Same as in case 2	35	2,788	No improvement; death from broncho-pneumonia	Continued downhill course while under treatment, with ultimate death
4	41	♂	2 yrs.	Same as in case 2	51	5,362	No improvement	Subjective improvement at onset; patient encouraged to walk; later claimed no improvement, none noted objectively
5	43	♂	4½ yrs.	Atrophy and fibrillation of left shoulder girdle; hyperactive deep reflexes; no sensory changes; equivocal plantar reflexes; legs weak	30	4,420	No improvement	No subjective or objective improvement at any time
6	50	♀	1 yr.	Weak right arm, with atrophy of right hand; fibrillations of shoulder girdle; hyperactive deep reflexes; sensation normal	86	7,374	No improvement	Progressively worse while under treatment; minimal changes at onset, but on discharge both legs also involved and tongue atrophic; extension of lesion not checked by treatment
7	64	♂	6 mos.	Weakness of left hand with atrophy and hyperreflexia; fibrillations; legs normal; sensation normal	50	2,734	No improvement objectively or subjectively	A minimal case; patient not helped by treatment
8	64	♂	9 mos.	Same as in case 2	21	2,096	No improvement; death from broncho-pneumonia	Progressive downhill course despite treatment; resulted in death
9	41	♂	3½ yrs.	Same as in case 2	91	9,680	No improvement subjectively or objectively	Condition has been stationary for past year
10	59	♂	1½ yrs.	Atrophy and fibrillations of tongue; increased deep reflexes in arms, with atrophy; right Babinski reflex	52	6,280	No improvement	Subjective improvement at start; not sustained; bulbar signs seen to increase while patient was under treatment
11	54	♂	8 mos.	Atrophy of intrinsic hand muscles; fibrillations of shoulders; all deep reflexes very active; no Babinski reflex; sensation normal	27	4,910	No subjective or objective improvement	A vegetarian; always ate much green vegetables, fruit juices, cereals, milk, egg-nogs

both orally and by intramuscular injection, so that a total of approximately 100 mg. of alpha-tocopherol was given daily to each patient. At no time were any toxic manifestations observed. Complete details as to dosage, duration of illness, symptoms and results are outlined in the accompanying table.

RESULTS AND COMMENT

Despite the fact that the quantities of alpha-tocopherol administered were larger than the customary amounts considered adequate, we were not able to obtain even one case of striking improvement. Two of the 11 patients, both presenting bulbar signs on admission, continued their downhill course and died, the first of these after five weeks of vitamin E therapy, the second after approximately three months of treatment with large amounts of alpha-tocopherol. Two other patients

the end of the therapeutic regimen, although subjectively some of them, after the first week or ten days of therapy, stated that they felt somewhat stronger than hitherto. This observation, however, could not be corroborated objectively; nor was the subjective improvement maintained when a longer period of treatment had elapsed. It was our feeling that this early subjective improvement was to a certain extent psychologic, secondary to the more restful hospital environment with better nursing care. At the time of discharge, however, even the patients themselves could notice no improvement in their condition. On one or two occasions we attempted to use a placebo instead of the vitamin E, with no essential change in the therapeutic result.

In our series of 11 patients there were 9 men and 2 women, their ages ranging between 36 and 64. Both

early as well as more advanced amyotrophic lateral sclerosis were represented in the series, and we could not notice any difference in the therapeutic efficiency of vitamin E in either stage of severity.

Despite the fact that the majority of our patients were of the economic group one usually sees in a public hospital of this type, we could elicit no definite history of dietary deficiency. Most of them had been receiving adequate, well balanced diets of about the same quality and quantity as that of our other patients in the ward suffering from various other neurologic conditions. No gastrointestinal symptoms were present; nor were there any prolonged periods of diarrhea in the patients' histories. Roentgen ray studies of the gastrointestinal tract of a few of the patients were made but showed no pathologic conditions. Gastric analysis of some of the patients similarly showed normal conditions. It is interesting to note that a few of the patients had previously been treated with vitamin B₁ (thiamine hydrochloride) without striking results. Incidentally, one of the patients was a confirmed vegetarian who for many years had subsisted on fruit juices, cereals, milk, egg-nogs, lettuce and nuts—a diet unusually rich in all the vitamins—with no evidence at any time of gastrointestinal symptoms. Yet he fell victim to amyotrophic lateral sclerosis notwithstanding.

It has been suggested by Wechsler⁹ that possibly a multiple vitamin deficiency might be the cause of this illness, and in his treatment of some of his patients he used various other vitamins as well as the alpha-tocopherol. With this thought in mind, a further study is in progress with the purpose of deciding the value of vitamin B₆, as well as other components of the vitamin B complex which in certain other neurologic conditions have shown some promise of therapeutic value.

SUMMARY AND CONCLUSIONS

1. Eleven patients with amyotrophic lateral sclerosis were treated with vitamin E (alpha-tocopherol) in large doses given both by oral and by parenteral means.
2. No therapeutic results of any value were observed; 2 patients with more advanced sclerosis continued to fail, eventually dying. Two other patients were observed to become progressively more paralyzed while under treatment, despite large doses of alpha-tocopherol. The remaining 7 patients showed no improvement.
3. No toxic manifestations were observed.
4. It is our feeling that alpha-tocopherol is without value in the treatment of amyotrophic lateral sclerosis.

ADDENDUM

Since this article was written we have had 4 additional patients with amyotrophic lateral sclerosis, who have been treated with even larger doses of vitamin E than the other patients. These latter 4 patients were given an average of 250 mg. of alpha-tocopherol daily and, in addition, 100 mg. of vitamin B₆. Unfortunately, our therapeutic results were no more impressive than with the original eleven cases described.

Also, since the article was submitted, there has been a report by Drs. C. H. Shelden, H. R. Butt and H. W. Woltman¹² of their experiences at the Mayo Clinic with vitamin E therapy in amyotrophic lateral sclerosis, and it is interesting to note that they similarly obtained no therapeutic benefit from this drug in 6 cases.

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VITAMIN E AND VITAMIN B₆

CLINICAL EXPERIENCE IN THE TREATMENT OF MUSCULAR DYSTROPHY AND AMYOTROPHIC LATERAL SCLEROSIS

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Recent experiments on animals¹ have suggested the possibility that muscular dystrophy and amyotrophic lateral sclerosis might be deficiency diseases. In some clinics therapeutic trials with vitamin E preparations and vitamin B₆ (pyridoxine hydrochloride) appear to have justified this conclusion.² Because the problem of the etiology and treatment of these disorders is one of considerable importance and because it is complicated by the absence of a clear demonstration that a deficiency of either vitamin E or vitamin B₆ exists in these conditions, we are presenting our observations, which have failed to indicate that added amounts of these vitamins are of benefit to patients with muscular dystrophy or amyotrophic lateral sclerosis. Similar results as far as vitamin E (synthetic tocopherol) is concerned have recently been reported by Shelden, Butt and Woltman.³

MATERIAL

With two exceptions the subjects of this study were patients at either the Neurological Institute or its outpatient department in the Vanderbilt Clinic. Two or more examiners concurred in determining their diagnoses and in estimating the effect of treatment. The group as a whole was followed in the outpatient department, where they were seen at frequent intervals and where they were given intramuscular injections of *dl*-alpha tocopherol dissolved in oil. The treatment of patients C. and T. was administered privately at home and the course of the illness was reported by one of our associates.

The instructions to the patients were in general as follows: 2 tablespoons of wheat germ cereal a day; 1 tablet containing 10 mg. of *dl*-alpha tocopherol acetate three times a day; 1 to 2 capsules of Tocopherex each

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containing the equivalent of 40 mg. of *dl*-alpha tocopherol twice a day; 10 to 30 mg. of pyridoxine hydrochloride dissolved in water once a day, and 100 to 200 mg. of *dl*-alpha tocopherol in sterile oil injected intramuscularly once or twice a week.⁴

RESULTS

The experiment is summarized in the accompanying table. Vitamin E and vitamin B₆ preparations as administered to our patients did not influence the course of either amyotrophic lateral sclerosis or muscular dystrophy. While under treatment, patients with amyotrophic lateral sclerosis became weaker and had increased difficulty in walking, talking and using their hands. The progression of symptoms did not appear retarded or accelerated as compared with the progression in patients who in past years did not receive this treatment.

COMMENT

It is difficult to reconcile the disparity which exists between our discouraging observations and the favorable results of therapy with preparations of vitamin E and vitamin B₆ reported by other workers. The explanation does not appear to lie in a difference in the amount of vitamin used or in the type of patient studied. Our patients, in general, received more of the vitamins and received them for a longer period than did other patients in whom improvement has been reported to follow therapy with these vitamins.

It does not seem likely that the disease processes in all our patients were at an end stage at which, because of irreversible pathologic changes, no improvement was to be expected. This certainly was not the fact with several patients in whom there was an active progression of symptoms despite treatment. Moreover, in

Summary of Experiments with Preparations of Vitamin E and B₆

Patient	Age, Years	Sex	Diagnosis	Duration of Disease, Years	Duration of Treatment, Months	Amount of Treatment					Progress
						Wheat Germ in Grams	Ephynal in Mg. Tocopherol	Tocopherex in Mg. Tocopherol	Alpha Tocopherol in Mg. Tocopherol	Vitamin B ₆ in Mg. (Oral)	
C. C.	14	♀	Pseudo-hypertrophic muscular dystrophy	2	1½	.....	.....	3,200	.....	.....	No change
M. J. T.	7	♀		4	6	1,800	5,400	.....	1,300	3,600	Somewhat worse
J. S.	15	♂		9	12	4,500	6,300	4,000	1,400	3,600	No change
A. S.	20	♀		5	3	1,400	2,700	4,000	.....	2,700	No change
B. D.	19	♂		15	10	4,500	9,000	2,000	1,000	2,000	No change
V. S.	15	♂		9	10	4,500	3,000	.....	800	600	Slight improvement*
J. D.	10	♂		3	12	2,000	5,400	2,000	1,250	2,000	Much worse
G. I.	11	♂		8	5	2,200	4,500	4,000	1,000	1,800	No change
A. O.	29	♂		2½	15	500	5,400	.....	1,800	1,500	No change
W. T.	14	♂		2	12	3,000	6,000	.....	1,400	500	No change
Wm. T.	20	♂	Progressive muscular dystrophy	5	12	3,000	6,000	.....	1,700	500	No change
S. B.	13	♂		5	12	200	5,400	4,000	200	1,000	Considerably worse
J. B.	11	♂		6	12	200	5,400	4,000	200	1,000	No change
F. P.	9	♂		4	11	2,500	4,500	4,000	600	2,700	No change
E. J.	30	♀	Amyotrophic lateral sclerosis	13	2	900	1,800	.....	900	500	Somewhat worse
F. C.	4	♀		2	6	250	4,500	4,000	200	2,500	No change
F. E.	30	♀		2	4	1,800	3,600	.....	400	600	No change
V. G.	9	♂		5	4	1,800	3,600	.....	.....	1,000	No change
A. G.	6	♂		2	4	1,800	3,600	.....	.....	1,000	No change
A. D.†	20	♂		8	12	4,000	5,000	.....	1,100	1,500	No change
J. F.	61	♂	Amyotrophic lateral sclerosis	2	6	3,000	5,400	4,000	2,400	1,200	Considerably worse
T.	63	♂		2	5	.....	4,500	.....	6,000	2,000	Considerably worse
A. B.	41	♂		2	6	2,700	5,400	4,000	3,500	2,400	Considerably worse
G. B.	58	♂		3	7	3,300	1,200	4,000	.....	1,000	Considerably worse
E. K.	39	♂		2	6	2,500	5,000	4,000	1,300	1,000	Considerably worse
C.	50	♂		1½	6	900	4,800	.. ..	7,200	.....	Considerably worse

* Not obvious to examiners.
† Considered atypical amyotrophic lateral sclerosis by one observer.

The majority of patients with muscular dystrophy experienced no change in their condition. A few became worse, as might have been expected in a group of this size followed over a period of this duration. In none was there obvious improvement. The creatinuria and creatine tolerances of patients W. T. and William T. were not demonstrably influenced by the intramuscular and oral administration of approximately 10 Gm. of *dl*-alpha tocopherol in a period of ten days. Only 1 patient said he was better. This patient (V. S.) reported a slight improvement similar to that which he had reported prior to treatment with vitamins and not of an order of magnitude sufficient to be appreciated by the examiners.

patients V. S., J. D., W. T., William T., S. B. and J. B., biopsy and roentgenograms of soft tissue failed to reveal significant irreversible pathologic changes in the grossly hypertrophied gastrocnemius muscle. It is not unreasonable to expect that under proper treatment such muscles would have shown considerable improvement in function. However, neither examiner nor patient was able to detect improvement.

Since we have no idea to what our discouraging experience should be assigned, we are reporting our observations so that by their contrast with the successful experiments of others they may indicate the variations which are evidently to be expected in this confusing field of vitamin therapy.

SUMMARY

Vitamin E and vitamin B₆ preparations, given in large amounts, failed to influence the course of either amyotrophic lateral sclerosis or muscular dystrophy in a series of patients followed for a period of two to twelve months.

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4. The wheat germ used was obtained from several sources: Mead Johnson & Co., General Mills and Dr. H. H. Bunzell. Ephynal, in tablets containing 10 mg. of *dl*-alpha tocopherol acetate, was furnished by Roche Organon Co.; *dl*-alpha tocopherol in sterile solution for intramuscular injection was furnished by Merck & Co., Inc.; purified and concentrated wheat germ oil in the form of Tocopherex was furnished by E. R. Squibb & Sons; pyridoxine hydrochloride in both tablets and crystals was furnished by Merck & Co., Inc. Through the cooperation of Dr. A. M. Pappenheimer and Marianne Goettsch, Ph.D., of the Department of Pathology and the Department of Biochemistry of Columbia University College of Physicians and Surgeons, the potency of some of the vitamin E preparations was verified by experiments on animals.

MEDICAL ASPECTS OF THE UNEMPLOYABLE CLIENT FOR RELIEF

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Relief authorities have often been accused of hardness of heart when it has come to granting relief to those applicants who have claimed some physical disability as the basis for inability to carry on ordinary employment. Human nature is prone to exaggerate physical aches and pains, so that relief authorities have sometimes been compelled to disregard even the family physician's certificate of disability in the face of a history of malingering and deceit on the part of the applicant.

Whether or not an applicant for relief is truly disabled could of course be determined only by an examination carefully and scientifically carried out by a disinterested physician or group of physicians. The whole matter of the proper disposition of persons claiming disability has been an administrative headache. The reason for this has been that relief officials have lacked any tribunal of a medical type before which clients of this kind could be examined and have their claims fairly adjusted.

The nonmedical interviewer has had to rely on the report of the family physician, who generally has had no opportunity to look into the extent of disability or check up by laboratory or other tests the claims of the patient of a partial or complete disability. The natural effort of every applicant for relief is, of course, to obtain as much relief as possible with the minimum amount of work given in return. In this respect it is perhaps a natural mental attitude on the part of the greater number of those seeking relief to maintain that they are entitled to relief under any circumstances by reason of their having paid taxes throughout their working lives.

It is this attitude on the part of the relief client that makes somewhat difficult the selection of suitable employment without putting undue hardship on the physical defects of age and disease. The employable person, of course, presents few problems, although from his class come numerous claims of partial inability to do certain kinds of work because of physical handicaps or inability to understand or become acquainted with work other than that followed by the applicant. This group, small in number, automatically becomes an addition to the problem of unemployment.

CLASSIFICATION OF UNEMPLOYABLE PERSONS

When one looks at unemployable persons as a group one will find that they fall into two classes, (a) those who are psychologically unemployable and (b) those unemployable because of physical defects. In the first-mentioned group are included persons who from birth have been more or less dependent either on the charity of relatives or on some form of public or private relief for their maintenance. This dependence, which under ordinary circumstances ceases when the person reaches adult life, is continued into mature age by those psychologically unemployable and remains as a support which is never voluntarily given up.

It is this failure to adjust themselves to the realities of life that prevents such persons from looking for a job or from holding one if they happen to get one.

Psychiatrists are prone to diagnose such conditions as neuroses and to declare those who have them unemployable. These are the passengers of modern life, and during times of depression they increase in number considerably to augment further the psychologically unemployable group. These people will remain unemployable until pressure is brought to bear to make them see the realities of life, in which each person must do his share of work toward the common good.

These people cannot think for themselves and must be given a type of work in which they are more or less perpetually under supervision and, indeed, are the kind of which totalitarian states will eventually be composed. There are, of course, occupations in which the individual is completely provided for, such as the army and navy, but in these the rate of intelligence is higher than in most other occupations. However, the only hope of making useful members of society of unemployable persons of the type described would require the development of work projects along the lines of institutional care. Such projects might put 90 per cent of these psychologically unemployable persons to work. There is, however, a small group of about 10 per cent who border on the psychotic and would for this reason be permanently unemployable. For these, institutional care must be provided. It is not meant that the person with a true psychosis should be included in this group.

THOSE UNEMPLOYABLE BECAUSE OF PHYSICAL DEFECTS

It is in the second group, the persons who claim unemployability because of a physical or disease problem, that there would seem to be a real chance for rehabilitation. It was presumed that in the majority of cases there existed a physical disability despite which, under intelligent and directed medical care, the person might be returned to the employable class.

If found after medical examination to be permanently unemployable, then the person could be referred to other agencies capable of dealing with those suffering total incapacity. By other agencies was meant the State Board of Children's Guardians for parents with dependent children, the State Commission for the Blind and the various state agencies caring for aberrant persons and those with permanent mental impairment. These would include feeble-minded persons and persons with epilepsy.

ATTEMPTED SOLUTION OF THE PROBLEM

In the early months of 1940 the number of unemployable persons on the relief rolls of the city of Newark was becoming so large a proportion of the total clients on relief as to suggest the definite need for a medical examination of all such persons. At the request of the director of relief of the city, a rehabilitation board was set up in the relief offices, with a staff of physicians assigned from the city dispensary.

A preliminary survey was first undertaken of all patients claiming disability as a basis for failure to work. The physical setup of the board required that one of the subrelief stations be divided into two sections: (1) a division for direct relief, consisting of a supervisor, case workers and other personnel of the department of relief, and (2) a medical division, supervised by a director and clinic physicians with nurses and an office staff.

By special arrangement the petitions of all those claiming physical disability throughout the city were cleared through this special suboffice. This meant that

all the records pertaining to any one case were available for the information of the medical division.

Once a week a general staff meeting was held which was attended by the case workers as well as by the medical staff. Each case in which disability was proved or disproved was carefully explained to the case workers by the medical staff. It was found that these meetings clarified considerably the outlook on the case and gave the case worker definite information of value as to the attitude to be taken. This was particularly valuable when partial disability was admitted and suitable work had to be found which the disabled person could perform without hardship.

PROCEDURE OF THE REHABILITATION CLINIC

The total number of unemployable persons to be checked numbered more than 3,600 out of a total of 16,000 on the relief rolls. The work of the medical board began with that class of unemployable persons who presented the quickest and greatest opportunity for rehabilitation, as shown by the original survey, those temporarily unemployable.

out any differences of opinion that an agreement on diagnosis could be reached and treatment could be carried out satisfactorily.

The worker engaged in following the case initiated a new system by which recommendations for rehabilitation were constantly brought to the attention of the patient and which thereby aided recovery.

RESULTS OBTAINED

During the four months operation of the rehabilitation clinic, the following results were obtained: Two thousand four hundred and forty-eight examinations were made. The number of patients declared temporarily unemployable was 807, of those declared permanently unemployable 658, and of those declared employable 980.

MEDICAL CONDITIONS FOUND

The accompanying table outlines the main causes of disability by grouped diseases among 1,535 persons found unemployable.

There were 563 men and 972 women examined.

Causes of Disability of Unemployable Persons

Cause	Race	Total	Total		Men					Women				
			Men	Women	Under 30 Yrs.	30 to 39 Yrs.	40 to 49 Yrs.	50 to 59 Yrs.	60 Yrs. and Over	Under 30 Yrs.	30 to 39 Yrs.	40 to 49 Yrs.	50 to 59 Yrs.	60 Yrs. and Over
Tuberculosis.....	N	21	13	8	2	3	7	1	0	2	5	0	1	0
	W	40	31	9	2	13	7	5	4	4	2	0	1	2
Heart disease.....	N	128	30	90	0	3	10	15	10	3	6	26	35	20
	W	155	64	91	1	5	14	18	26	2	5	13	33	38
Syphilis.....	N	65	13	52	1	4	0	5	3	1	15	20	13	3
	W	20	11	9	0	1	3	4	3	0	2	4	1	2
Arthritis.....	N	44	11	33	0	2	5	3	1	2	4	14	6	7
	W	61	27	34	0	4	7	10	6	0	0	5	15	14
Hypertension	N	223	49	174	0	7	11	14	17	0	22	48	70	24
	W	213	92	121	0	3	11	38	40	1	9	8	46	57
Diabetes.....	N	18	3	15	0	0	0	1	2	0	0	6	5	4
	W	40	17	23	0	0	7	3	7	0	0	3	12	8
Other.....	N	176	45	131	6	12	14	8	5	20	47	26	26	12
	W	331	149	182	13	30	37	46	23	15	35	51	54	27
Grand total.....		1,535	563	972	25	87	133	171	147	50	152	224	318	228

Appointments for examination were made on special forms, so that no more than thirty appointments were made for each day's examination. This enabled the examining physician to make a thorough check on the disability claimed.

The appointments were spaced throughout the day from 9 a. m. to 4 p. m., three physicians and a medical supervisor being present at all times. Copies of the forms for physical examination, together with all the information about the case known to the welfare department, were submitted with each case. When the patient was bedridden, the examination was made at the home. The medical examination was complete in every detail, in absolute privacy and, in the case of female clients, in the presence of a nurse.

For the actual work of rehabilitation, each patient after examination was transferred to the medical agency, where it a clinic or a private physician who had already been treating the patient. Those applicants who had no record of treatment prior to the examination were transferred to the agency necessary for measures of rehabilitation.

It is well to emphasize here that no treatment of any kind was given or was suggested by the medical staff. It is worth while noting that, in a few cases in which there was a difference of opinion between the private physician treating the patient and the physician at the clinic, a conference between the two so ironed

HYPERTENSION

The most frequent cause of disability found was hypertension, with 141 men and 295 women totaling 436 under this head. Among the age groups the greater number of patients with hypertension were found at ages 50 to 59, 168 cases being recorded. The women under this group far outnumbered the men (116 to 52). The number of Negro women with hypertension was naturally greater than that of Negro men (70 to 14) because more Negro women were examined than Negro men in this group. Among the 148 patients with hypertension at 60 and over the women again outnumbered the men 91 to 57. The Negro women in this group numbered less than the white women (34 to 57).

HEART DISEASE

The unemployment disabilities caused by diseases of the heart numbered two hundred and eighty-three; one hundred and twenty-eight of these were among Negroes. The men numbered 181 to 102 women. The majority of instances of heart disease were found among the older groups, with 101 cases among those aged 50 to 59 years. There were more Negro women with this diagnosis than white women (35 to 33). This excess of Negro patients was not noticeable among the men, the white men numbering 18 as against 15 Negroes. At 60 years and over there was a preponderance of women (58 as against 36 men). In the younger group,

aged 40 to 49, there were 63 cases, 39 being among women. The Negroes in this group were 14 as against 10 white men, and among the women there were 26 Negro to 13 white women. In the age groups under 40 years there were 25 cases of heart disease, 16 among women.

ARTHRITIS

There were 105 cases of arthritis recorded (38 men and 67 women). The majority of the patients—more than 90 per cent—were of course over 40 years of age. There was a slight preponderance (34 to 33) of white women over Negro women at all ages. Among the men the proportion of whites and Negroes was about the same.

SYPHILIS

Syphilis was the cause of incapacity in 85 instances (24 men and 61 women). The Negro women with syphilis were far in excess of the white women (52 as against 9). Only 1 man and 1 woman, both Negroes, were less than 30 years of age.

TUBERCULOSIS

Tuberculosis was the cause of disability in 61 instances (44 men and 17 women). About half of these were Negroes (21 as against 40). Among the 44 men so infected, 16 were aged between 30 and 39 years and 14 between 40 and 49 years. There were 10 aged over 50; only 1 of these was a Negro. Among the 17 women with tuberculosis, 13 were under 40 years of age of whom 7 were Negroes.

DIABETES

Diabetes was diagnosed in 58 patients (20 men and 38 women); 15 of the women were Negroes. None of these patients were under 40 years of age. In the age period 20 to 49 years there were 16 cases, 10 being among white persons and 6 among Negroes. At the ages of 50 and over there were 42 cases, 29 among women and 13 among men. Among the women with diabetes at 50 years and over 9 were Negroes.

OTHER CAUSES

Most prominent among the other causes of disability was the menopause, with 44 cases, 14 among Negro and 30 among white women. Asthma was recorded thirty-one times, with 23 cases among white persons, the majority of them men. Cholecystitis was reported in 23 persons, the majority (20) being white. Hernia as a cause of disability was reported in 22 cases. The cases were more frequent (14 to 8) among white persons and among white men (11 in men to 3 in women). Obesity was responsible for the disability of 29 persons, the majority of cases occurring among the Negroes (16 as compared with 13 white persons). Paralysis of various types occurred in 21 instances, 14 among white persons and 7 among Negroes. Varicose veins was given as a cause in 17 instances, 11 among whites and 6 among Negroes, mostly women. The same preponderance was observed among white women.

Gastric ulcer was reported in 15 instances and epilepsy in 14. Most instances of the latter were among white persons (9 of them to 5 Negroes). Anemia was reported in 14 instances and senility in 8.

AN ESTIMATE OF THE VALUE OF THE CLINIC

To summarize the work so far done in the clinic, it is clear that the constant supervision and the rapid and complete recording of all unemployable persons, together with the degree of their disability, have been of inestimable value to the welfare department. For

the first time a scientific and accurate record has been kept, together with a procedure for rehabilitation, which has tended so far to cut down considerably the list of unemployable persons.

The clinic has given every applicant for disability the benefit of a careful examination. There can be no doubt that the setup of this clinic has definitely aided in weeding out many malingerers and has made many such persons think twice before embarking on a path of false claims. It has fulfilled a useful purpose in reducing the number of clients for relief claiming inability to work. It has rendered more secure the position of actually unfit persons in their claims for relief and has established the need for employment of a nature to suit those whose disability does not render them unfit for some type of light employment. In this respect, there is evident need for more WPA projects for light work only to be open to those on file in the medical clinic records.

Through the cooperation of the two departments of health and welfare, problems of institutional needs have been met with the least delay and with little lost motion. There has thus been brought about a general saving of time, effort and money.

The establishment of this clinic as an innovation has rendered possible the referring of all cases from the city dispensary involving lengthy examination and reports, particularly in those instances in which patients claimed disability due to surgical injury, and the determination of the measure of employability.

Plane and William Streets.

INTRANASAL THERAPY WITH SODIUM SALT OF SULFATHIAZOLE IN CHRONIC SINUSITIS

FREDERICK MYLES TURNBULL, M.D.

LOS ANGELES

For many years I have followed the various vaccine and chemical treatments for chronic sinusitis. The vaccines have been used both hypodermically and locally as a filtrate with disappointing results. Every new treatment from the Carrel-Dakin down to the recent treatment with sulfanilamides and azosulfamide solutions has been used in the sinuses, and while the 2.5 per cent solution of azosulfamide used as a spray in the nose and throat has been giving favorable results in infections of acute involvement, such as in the recent epidemic of influenza, and apparently is a preventive to a certain extent in this infection, no results were obtained with it in the treatment of chronic infections of the sinuses.

Cultures taken of material from the sinus in many cases of chronic sinusitis over a long period have shown that the predominating organism is the staphylococcus, so that when sulfamethylthiazole was introduced it seemed especially suitable in this type of case. However, the sulfamethylthiazole was soluble only to the extent of 200 mg. per liter, or a 0.02 per cent solution. One would think that this would be entirely ineffective, but the first patient for whom I used it was a child who had had an infection over a period of about a year, so that there was a beginning atrophic rhinitis with considerable scabbing. I used it as a spray in the nasal cavities, and it was striking to see this condition clear up in a period of three weeks, although the child had undergone a great many other treatments during

the previous year. The scabs and pus disappeared, the circulation returned to the mucous membrane and the turbinates returned to normal size. The culture of material taken from the nose in this case showed a pure growth of hemolytic *Staphylococcus aureus*. This was the only instance in which sulfamethylthiazole was prescribed as a nasal spray to be used by the patient at home. A number of other patients were treated by instillation of the sulfamethylthiazole into the sinuses with no apparent results.

The sulfamethylthiazole was then withdrawn from investigational use, and five months ago I obtained a supply of the sodium salt of the sulfathiazole.¹ I started using a 5 per cent (normal) solution of this and have continued to do so. I obtained the best results by using it as a spray.

Among 47 patients with chronic sinusitis all but 7 reported definite improvement and relief of symptoms. On 4 of the 7 I have had no report. Of the 3 reporting no improvement, 2 had hay fever and 1 was fighting an influenza infection and at the present writing is showing symptomatic improvement.

Of the 40 patients reporting improvement, 20 showed an increase in drainage, with definite relief of symptoms

swelling or stuffiness of the nose. From examination it is shown that some shrinking takes place, and drainage from the sinuses is noted.

The sulfathiazole was used in two cases of chronic conjunctivitis in which the infection showed staphylococci, and both were secondary to chronic sinusitis. Both of these cases had been under extensive treatment by ophthalmologists and both cleared up promptly with the 5 per cent solution of sodium sulfathiazole instilled into the eye. There were no symptoms of irritation from its use.

I used the solution in five cases of chronic suppurative disease of the ear with striking results. Four cases cleared up and one improved. A man aged 31 had had a discharge from the ear since he was 5 years old. Many things had been tried over a three year period of treatment but there had still been some discharge. Within three weeks after treatment with 5 per cent solution of sulfathiazole instilled into the ear every night, the discharge had disappeared. A woman aged 58 who had had suppurative ears for forty-two years and chronic mastoiditis for the same period of time reported that there had been no odor, and the discharge has almost disappeared since the sulfathiazole solution has been used.

The ages of the patients treated ranged from 13 to 78 years. Blood counts taken before and after treatment ranged from 6,570,000 erythrocytes to 3,910,000, hemoglobin from 127 per cent to 60 per cent and leukocytes from 20,450 to 3,950. The 3,950 leukocyte count was the only one below 4,000, and this patient had been treated previously with sulfanilamide used intraorally. Blood counts were made at least twice a week on all patients, and on most patients daily. There has been in no instance any breaking down of the leukocytes, erythrocytes or hemoglobin. There have been no toxic symptoms whatever, even when the solution has been used as a nasal spray over a period of five months.

Cultures were taken in 26 cases, with the results shown in the accompanying table. Twenty-five of this group were those in which improvement was reported. A culture taken in 1 case of the group in which there was no improvement showed no growth in the nose.

The solution was found to be not stable over a long period when exposed to light and air, and it has a moderate tendency to crystallize and turn yellow. Fresh solutions should be used.

SUMMARY AND CONCLUSIONS

A 5 per cent solution of the sodium salt of sulfathiazole was found to bring greater relief from the symptoms of chronic sinusitis when used as a nasal spray than any other preparation that I have used. In only 2 cases out of 47 were unfavorable symptoms reported. Both were acute attacks of hay fever, and there was swelling and blocking of the nose. Forty of 47 patients who reported definite symptomatic relief stated that it relieved congestion, opened the nasal passages, promoted drainage and relieved pressure headaches. There was no granulocytopenia and no hemoglobinuria.

Sulfathiazole seems a perfectly safe procedure, and the results obtained in cases of chronic sinusitis seem to justify further investigation and would also suggest investigation in other involvements due to staphylococcal infections on account of the solubility of the sodium salt.

1930 Wilshire Boulevard.

Results of Cultures

Culture Diagnosis	No. of Cases
Hemolytic staphylococcus aureus.....	5
Staphylococcus	6
Gram-negative bacillus	2
Alpha streptococcus and beta hemolytic streptococcus..	1
Staphylococcus aureus	2
Staphylococcus aureus and alpha hemolytic streptococcus	1
Nonhemolytic staphylococcus aureus.....	1
Staphylococcus albus and hemolytic staphylococcus aureus	1
Staphylococcus albus	1
Alpha streptococcus and weakly hemolytic streptococcus	1
No growth	1
Alpha streptococcus	2
Alpha streptococcus and staphylococcus albus.....	1
Total	25
(Making a total of 26 with one culture from unimproved group showing no growth.)	

and opening of the nasal passages. Twenty reported no increase in discharge, but nevertheless there was symptomatic relief. None of the entire group of 47 complained of sneezing as an aftermath of the treatment.

Many of these patients had heaviness, fulness and pressure over the maxillary or frontal sinuses, and patients obtained quick and almost complete relief from these symptoms without recurrence over a period of from one week to five months.

I have also used this 5 per cent solution by instilling it directly into the sphenoids and maxillary sinuses after an operation and in nonoperative chronic infections of the sinuses. To date I have not been able to draw any definite conclusions of improvement by instilling it into the sinuses. There has been no decided diminution in the amount of discharge or in the symptoms. However, the patients who have been allowed to spray the nose twice a day with the 5 per cent solution of sodium sulfathiazole have consistently reported symptomatic relief. They have consistently reported that the nose has been more free, that there is better breathing space and that there is a considerable amount of drainage from the nose and down the throat within a period of less than half an hour after using the spray. This apparently is not drainage produced by stimulation of the membrane, as there is no sneezing and no

1. The E. R. Squibb & Sons' product.

Clinical Notes, Suggestions and New Instruments

AMERICAN Q FEVER

REPORT OF A PROBABLE CASE

M. B. HESDORFFER, M.D., AND J. A. DUFFALO, M.D., MISSOULA, MONT.

In 1938 Davis and Cox¹ reported the isolation of a filter-passing infectious agent from *Dermacentor andersoni* collected near Nine Mile Creek in Montana, and Parker and Davis,² its experimental transmission by ticks. Cox³ described the rickettsia-like characteristics of the organism associated with the infection, and Dyer⁴ reported the first case in human beings, which was apparently a laboratory infection. More recently Cox⁵ has suggested the name *Rickettsia diaporica* for the causative agent and American Q fever to designate the disease.⁶

In 1940 Hornibrook and Nelson⁷ described the epidemiology and clinical characteristics of an outbreak of pneumonitis which occurred among employees of the National Institute of Health at Washington, D. C. Bacteriologic studies carried out by Dyer, Topping and Bengtson⁸ showed this outbreak to be the rickettsial disease American Q fever. These authors stated that the chief characteristic of this illness was "central pneumonia which would have been unrecognized in the absence of roentgen examination of the chest."

A comparison of their cases with numerous similar cases reported in the literature⁹ suggests that American Q fever may be widespread.

It is our purpose in this communication to report an illness which on the evidence of clinical and laboratory observations appeared to be a case of American Q fever.

REPORT OF CASE

W. L., a white man aged 20, a university student, worked in the woods cutting Christmas trees on Nov. 16 and again on Nov. 22, 1940. On the latter date his clothing became wet and he undressed in the woods to warm himself and dry his clothing. On November 25 he noticed a slight infection of the respiratory tract which did not respond to treatment as readily as other "colds" had. About December 1, the patient noticed a vague discomfort in the right side of the abdomen. His bowels were severely constipated and he noticed considerable gaseous distention and flatus. Up to this time he had experienced no nausea or vomiting. The discomfort became increasingly more severe, and on the night of December 10 he had a chill. Repeated questioning did not elicit a history of a tick bite.

From the Students' Health Service, Montana State University.

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On admission to the hospital December 13 the temperature was 100 F., the pulse rate 96 and the respiratory rate 22. There was considerable gaseous distention of the entire abdomen, with a peculiar "boggy" feel to the cecum. This "bogginess" was associated with some tenderness. The white blood cell count was 21,950 with 82 per cent polymorphonuclear leukocytes and 18 per cent small lymphocytes. A rectal examination revealed no abnormalities, and a small enema with tap water relieved the distention.

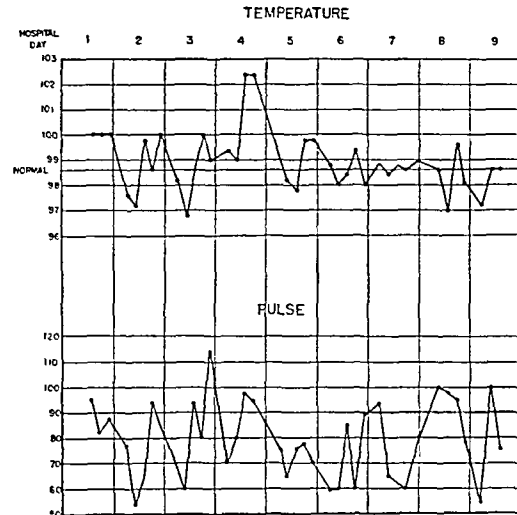


Fig. 1.—Clinical course from Dec. 13 to Dec. 21, 1940 inclusive (sulfathiazole therapy started on fourth hospital day).

On the fourth day of hospitalization there was a loss of appetite, associated with nausea and vomiting in the afternoon. Later that day, the patient experienced a severe chill and the temperature rose to 102.4 F. (fig. 1). The white blood cell count was 16,150 with 80 per cent polymorphonuclear leukocytes, 18 per cent small lymphocytes and 2 per cent eosinophils.

Agglutination tests on specimens of serum taken that evening failed to show the presence of *Bacillus typhosus*, *Bacillus paratyphosus*, *Brucella abortus* or *Bacillus tularensis*. *Bacillus proteus* X 19 was not agglutinated in significant titer.

A roentgenogram of the chest was made in spite of the apparent normalcy revealed by auscultation and percussion. It showed diffuse, patchy pneumonitis involving the upper lobe of the left lung (fig. 2).

On therapy with sulfathiazole the patient improved, the temperature returning to normal by lysis on the eighth day (December 21).

In view of the roentgen appearance it was suggested by Dr.

Herald R. Cox, principal bacteriologist of the Rocky Mountain Laboratory, United States Public Health Service, that tests be made to determine whether perchance the patient had American Q fever. A sample of blood taken on December 20 was tested by Dr. Cox for the organism causing American Q fever by the inoculation of guinea pigs and by agglutination against a suspension of *R. diaporica*. The inoculated guinea pigs failed to show any evidence of American Q fever, but the serum showed positive agglutination for *R. diaporica* in a dilution of 1:80.

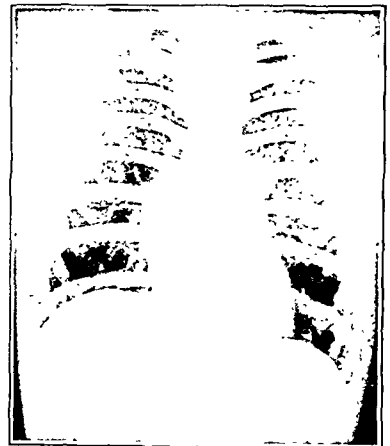


Fig. 2.—Fine diffuse patchy pneumonitis involving left upper lobe.

A second sample of blood taken on Jan. 15, 1941 likewise showed positive agglutination for *R. diaporica*, this time in a dilution of 1:160.

COMMENT

The results of the agglutination tests suggest that the patient had American Q fever. These results are supported by the fact that the patient showed pneumonitis, which would have gone unrecognized without the use of roentgenograms and which, as we have already noted, was one of the cardinal features of the outbreak of American Q fever described by Hornibrook and Nelson⁷ and Dyer, Topping and Bengtson.⁸

If this was a case of American Q fever, as seems likely, how was the infection acquired?

The patient had worked in the woods cutting Christmas trees in November. He had drunk from mountain streams. He had no knowledge of a tick bite and, considering the season of the year, a tick bite would seem to be highly improbable. However, the weather that fall had been unusually mild, and there is a slight possibility that a tick could have become attached at the time the patient undressed to warm himself and dry his clothes.

A patient with a similar illness was treated by Dr. C. C. Tefft of Hamilton, Mont., in the late fall of 1939: A white man aged 37 had a febrile condition which was practically identical in all clinical features with that described by us. A strain of organisms causing American Q fever was isolated at the Rocky Mountain Laboratory from a sample of blood taken on the third day after onset, and samples taken later, during the period of convalescence, showed positive agglutination against *R. diaporica*. No evidence was obtained as to how the patient acquired the infection. He had hunted on the east fork of the Bitter Root River for several days in early October but stated that he had had no contact of any kind with animals. He had drunk from mountain streams, as had a number of other persons with him on the trip, but he was the only one to become ill. No history of tick bite, which as we have already pointed out is unlikely at this time of year, was to be obtained.

SUMMARY

The illness of a young man was characterized by pneumonitis that was recognized only by the aid of roentgenograms. Samples of serum taken during convalescence showed positive agglutination against *R. diaporica*, strongly suggesting American Q fever.

HUMAN INFECTION WITH PASTEURELLA LEPISEPTICA FOLLOWING A RABBIT BITE

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NEW HAVEN, CONN.

We wish to describe an example of human infection with *Pasteurella lepi-septica*. The reason for making the report is that few such cases have been described and in this instance the source of infection was believed to be a rabbit.

In 1938 Lévy-Bruhl¹ reviewed the literature in a discussion of pasteurellosis in man. Subsequent reports are as follows: Foerster² found an organism with the properties of animal *pasteurella* in the pleural exudate and in the lungs in 2 cases of pneumonia; Mulder³ repeatedly isolated the organism from the sputum of a child with bronchiectasis; Plette⁴ cultured *Pasteurella* from the pleural fluid of a man with pleural and pericardial effusion and Le Chuiton, Bideau and Pennanéac'h⁵ recovered a strain from the spinal fluid of a patient with meningitis following a skull fracture.

REPORT OF CASE

History.—N. C., a white man aged 53, the caretaker of animals in our department, was bitten on the right index finger by a rabbit. The rabbit had had some nasal discharge and

there had been snuffles in the colony for several weeks. The accident occurred about 4 o'clock on the afternoon of Feb. 18, 1938, and the wound, which was small, was washed with soap and water. During the night the finger became red, swollen and painful. The following morning the patient entered the emergency ward of the hospital for treatment. Examination showed a 1 cm. linear laceration at the base of the right index finger with redness and swelling of the entire finger. The wound was cleansed with liquid soap and alcohol, cauterized with nitric acid and dressed. Tetanus antitoxin was administered in divided doses after desensitization of the patient. The use of hot magnesium sulfate compresses at home was advised. On February 20 the infection began to spread over the dorsum of the hand and by March 7 extended up the forearm. At that time the patient was admitted to the surgical ward.

Examination.—The patient was well developed and well nourished and did not appear acutely ill. The temperature on admission was 97.8 F., and the pulse rate 66 per minute. The abnormalities were limited to the right upper extremity. There was a dry, healing lesion at the base of the right index finger. The dorsum of the hand was red, swollen and tender, with redness and increased heat extending up the dorsal surface of the forearm midway to the elbow. There was no local glandular enlargement.

The red blood cell count was 4,700,000, with 14.5 Gm. of hemoglobin; the white blood cell count was 20,350, with 82 per cent polymorphonuclear leukocytes on admission falling to 10,800 with 63 per cent polymorphonuclear leukocytes at the time of discharge. The urine gave a 1 plus reaction for albumin.

Characteristics of Strain from Human Abscess

Strain	Fermentation of*									
	Motility	Gelatin	Indole	Litmus Milk	Dextrose	Saccharose	Mannitol	Levulose	Maltose	Mouse Virulence
N. C.	—	—	+	—	A	A	A	A	A (slight)	+

* A, production of acid without gas.

There were no casts or cellular elements in the sediment. Culture of the blood showed no growth in the broth or in the pour plate.

Course.—The patient's course was afebrile. With continuous hot saline compresses the redness and edema subsided, and the patient was discharged home on March 11 with instructions to keep the arm elevated in a sling. A few days later the hand again became painful, and on March 18 the patient returned to the emergency ward with a fluctuant area about 4 cm. in diameter on the dorsum of the hand. Under local anesthesia the abscess was incised, and about 5 cc. of seropurulent material was released. Cultures were taken and a drain was inserted. The drain was removed in one week, and healing was complete by April 1. There were no residual symptoms.

Bacteriologic Examination.—A culture of the pus from the incised abscess yielded a pure growth of small, ovoid, pleomorphic bacilli which were gram negative and showed bipolar staining. They occurred singly, in pairs and in small groups. The motility test gave negative results. After twenty-four hours' incubation on blood agar plates (beef heart infusion agar with 5 per cent rabbit's blood), grayish yellow colonies were visible which measured 1 to 2 mm. in diameter. The colonies were smooth, translucent, convex and of mucoid consistency with an unusual, penetrating odor. There was no hemolysis, but the plate was slightly cleared and brown. By test, the organisms did not produce a soluble hemolysin for rabbit erythrocytes. Growth on plain agar plates was less profuse than on blood agar. Growth in blood broth for twenty-four hours produced a moderately cloudy supernatant fluid with a slightly viscous deposit in the bottom of the tube.

The organisms produced acid but not gas in dextrose, saccharose, mannitol, levulose and maltose (slightly). Lactose was not fermented. Indole was formed. There was no liquefaction of gelatin. Litmus milk was unchanged. These results are shown in the accompanying table.

Dr. Caspar G. Burn helped the authors in this work.
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From the Department of Pediatrics, Yale University School of Medicine, and the Pediatric Service of the New Haven Hospital and Dispensary.
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The intraperitoneal inoculation of white mice with 0.2 cc. of an eighteen hour broth culture resulted in death in twenty-four to forty-eight hours. Autopsy revealed an acutely inflamed peritoneum with multiple small hemorrhages. The organisms were visible in large numbers in stained smears and cultures taken of material from the peritoneum and of the heart's blood.

A sample of the blood serum of the patient obtained on June 7 failed to agglutinate the organism.

Organisms which were morphologically and culturally identical with those obtained from the patient were present in considerable numbers in cultures taken of material from the nose of the rabbit.

Special Article

GLANDULAR PHYSIOLOGY AND THERAPY THERAPEUTICS OF TESTICULAR DYSFUNCTION

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This special article is published under the auspices of the Council on Pharmacy and Chemistry. It is one of a series which will be published in book form as the second edition of "Glandular Physiology and Therapy." The opinions expressed in this article are those of the author and do not necessarily represent the views of the Council.—Ed.

The first major advancements in endocrinologic knowledge came from studies pertaining to the testis. Aristotle¹ recognized that the absence of the testis is responsible for the changes observed in castrate animals and man. In 1849 Berthold² concluded that the testis produces an internal secretion, since capons with an implanted testis have comb growth and other characteristics of the cock. Thereafter, the study of testicular function lagged behind that of other ductless glands until, as a result of intensive study³ during the last decade, the status of androgenic substances shifted abruptly from that of relatively unknown materials to that of highly active crystalline compounds that can be prepared synthetically and are available for therapeutic use.

The androgens of chief interest in therapeutics are testosterone, a substance isolated from testis tissue (of the bull⁴), and androsterone and dehydroisandrosterone, which are excreted in human urine.⁵ Clinically, testosterone is the compound used at present almost exclusively. For intramuscular injections, the propionic

ester of testosterone is utilized, as it provides prolonged action. The nonesterified form may be found more effective percutaneously and in implanted pellets, but these modes of administration are still largely in the experimental stage.

The rationale in therapy with androgens is either that of substitution in conditions characterized by deficiency of testicular secretions, or that of utilization of pharmacologic actions in states in which actual deficiency of testicular secretions is not present or is in doubt. For a proper understanding of the uses, limitations and dangers of androgens, it is essential to appreciate (1) the relationship between the testis and the pituitary, (2) the sequelae of castration and of eunuchoidism (underdevelopment of the testis) and, conversely, (3) the bodily functions and morphologic changes promoted by androgens.

RELATIONSHIP BETWEEN THE TESTIS AND THE ANTERIOR LOBE OF THE PITUITARY GLAND

The testis has two rather distinct functions, spermatogenic and endocrinous. Both functions are induced by, and dependent for maintenance on, gonadotropins from the anterior lobe of the pituitary. In turn, testicular secretions limit the production by the pituitary of gonad-stimulating material.⁶ Thus, a loss of testicular function leads to increased secretion of gonadotropins, whereas the administration of exogenous androgens suppresses production of the gonadotropic substances. Therefore, titers of urinary gonadotropins may serve to indicate whether the atrophy or underdevelopment of the testis is primarily referable to testicular hyposecretion or is secondary to lesions of the pituitary or of the brain stem. From the standpoint of replacement therapy, however, such methods of distinguishing between primary and secondary hypogonadism in the male are of limited value. Primary hypogonadism is usually obvious, as for example after bilateral orchectomy or overt damage of the testes, such as an interruption of the blood supply during repair of hernia. Even if the eunuchoidism is secondary, no means of initiating spermatogenesis is known at present.

CASTRATION AND EUNUCHOIDISM⁷

The extent of the abnormality resulting from insufficiency of testicular secretion depends on the degree of secretory deficiency and on the age of the patient at the onset of the condition. There are two distinct types, that in which the onset of deficiency occurred before sexual maturity and that in which it was delayed until after sexual maturity.

Prepuberal Onset of Testicular Insufficiency.—Prepuberal deficiency of testicular secretion gives rise to the eunuchoid state, in which the genitalia remain small and the skeleton is characterized by extraordinary length of the long limb bones, associated with delay of epiphyseal union. The voice retains a high pitch, and the larynx, although larger than that of a child, does not have the prominence of the thyroid cartilage or the size of that of the adult male. The beard is usually composed of only fine hair, shaving being more a matter of desire than of necessity. The bodily proportions, a lack of muscular development and in some cases a characteristic distribution of adipose tissue—

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The following members of the group engaged in study of problems pertaining to androgenic substances gave aid and opinions which were responsible for some of the data presented: Drs. Gilbert Hubert, Judson Gilbert, Edgar Allen, Edward Edwards, Ralph Dorfman and Hubert Catehpole.

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6. Moore, C. R.: *Biology of the Testes*, in Allen, E.; Danforth, C. H., and Doisy, E. A.: *Sex and Internal Secretions*, Baltimore, Williams and Wilkins Company, 1939, chap. 1.

7. In eunuchoidism, a eunuch-like state, the testes are present but do not secrete properly; the range of patients is from those like castrates to those more like normal men.

along with the lack of beard and manly voice—have given rise to incorrect allusions to femininity.

Postpuberal Onset of Testicular Insufficiency.—Postpuberal interruption of testicular function does not produce all the sequelae observed following the prepuberal onset of testicular insufficiency. Eunuchoid proportions of the long bones are not observed if the epiphyses are already closed. The secondary sexual characters show regression, but such organs as the larynx and genitalia do not return to an immature state. An adult character of voice is retained⁸ and, with variation from subject to subject, a limited degree of sexual ability and desire.

Phenomena Characteristic of Castration and Eunuchoidism.—Castrate and eunuchoid persons are excellent subjects for study of both the phenomena of testicular insufficiency and the effects produced by androgens. The widespread physiologic effects of "sex hormones" described in the following paragraphs serve to dispel the prevalent erroneous notion that the influence of testicular secretions extends only in the sphere of reproductive purposes:

1. Absence of spermatozoa and testicular secretions: The most obvious derangements in the castrate man are the lack of spermatozoa and the low levels of androgens in the bodily fluids. According to Gallagher and co-workers,⁹ normal men excrete in the urine an average of about 66 international units of androgen per twenty-four hours, whereas the amount of androgenic material excreted by castrate and eunuchoid men is much less.¹⁰

2. Integument: The skin is soft, and the face viewed from a distance appears to be that of a young person. Closer inspection reveals the absence of deep furrows and in the older men the presence of numerous fine wrinkles. The skin is characteristically of a pasty, sallow color, due to lack of cutaneous pigments¹¹ rather than to anemia. Spectrophotometric analyses¹² indicate that the volume of blood in the skin and the percentage of oxygenated hemoglobin are less than in normal men. In certain areas like the buttocks, however, which contain a goodly amount of "venous" blood (a high proportion of reduced hemoglobin), there is more blood than in normal men. Melanin is present in less than average amounts.

The skin and hair are dry and the sebaceous secretions apparently diminished. Acne does not occur in the person who does not mature sexually.¹³

Dermal appendages are affected, especially the hair. The beard of the eunuchoid is soft and not entirely unlike that of an adolescent, whereas the postpuberal castrate retains many hairs of large diameter and may require shaving once or more each week. The axillary and pubic hair is of fine texture and of limited amount. Other hair on the trunk and that of the limbs is not of the coarse, thick type typical of secondary sexual hair. Eyebrows are present but are less bushy, and there is lacking the hair between the eyebrows that was present before postpuberal castration and that returns on androgenic therapy. None of the eunuchoids in our series were bald, although in some of the families other male members were bald; the hair over each temple extended well toward the lateral edge of the eyebrow.

3. Adiposity: In both eunuchoid and castrate men adipose tissue may be deposited subcutaneously, being particularly prominent about the mammae and over the trochanter and mons

pubis. Such adiposity is absent, however, in many castrate or eunuchoid persons, some of whom have had marked testicular insufficiency for as long as forty years.

4. Voice: In the eunuchoid the vocal pitch and range are high, for example, a range from D above middle C to the third E above middle C, with the pitch in conversation F above middle C (frequency per second: range, 294 to 1,319; pitch, 349). The mature voice of the postpuberal castrate is largely maintained, as shown by the range of one patient from the second G below middle C to E above middle C, with a pitch during low conversation of B below middle C (frequency per second: range, 98 to 330; pitch, 247).⁸

5. Circulation: A characteristic derangement of the blood content of the skin of the castrated man was described under item 2 in this list. Hot flushes, similar to those in some women at the menopause or after bilateral oophorectomy, occur frequently and if severe are followed by sweating. With four exceptions, the systolic blood pressure in 14 of the patients in our series has been only slightly more than 100 mm. of mercury. The chief complaint of many patients is fatigue and inability to carry on work. The data pertaining to circulatory fitness in such patients are scanty as yet, and there is difficulty in distinguishing which disturbances are primarily circulatory and what roles metabolic and other factors play. It is unwise to do more than indicate that derangements of the circulatory system occur and that administration of testosterone results, possibly indirectly, in circulatory changes in castrate men.

6. Genitourinary system: In the eunuchoid man the external genitalia are indicative of the underdeveloped state of the internal genitalia. The penis is not unlike that of a newborn child, the scrotum a flat band, without pendulousness or sacklike form, and the epididymis so tiny as to defy attempts by palpation to establish its contour. The prostate and seminal vesicles may be so small as to be recognized on rectal palpation only with difficulty and uncertainty. In eunuchoidism of this severity the urinary stream is of small diameter and may not be of great force. In the man castrated after sexual maturation the genitalia remain large save for the scrotum, the size of which is apparently dependent in part on the enclosed organs.¹⁴ In white men the skin of the scrotum and penis loses much of the dark brown color, and the raphe is not prominent.

In general, penile erections are of limited number and completeness. Notable exceptions occur. Two men surgically castrate for twenty-two and thirteen years, respectively, had erections that would permit satisfactory intercourse despite obvious organic and functional evidence of castration, including extremely low levels of urinary androgenic activity (8 and 5 international units, respectively, per twenty-four hours). Such facts serve as an argument against any theory that erectile capacity is due to androgens of extragonadal source. The ejaculate in 4 instances amounted to only a minim.

7. Behavior: Judgment as to irregularities of behavior in these patients is fraught with error, for the mere appreciation that sexual defects are present is in itself psychologic trauma of a high degree. Many authors classify the eunuch or eunuchoid man as sullen or untrustworthy, but detailed examination reveals different individual traits and not necessarily a particular personality pattern.¹⁵

Caution must be exercised in distinguishing the effects of senility from those that can be properly accredited to testicular insufficiency. In advanced age any decrease in gonadal function is blended closely in ordinary experience with matters in the domain of geriatrics. This has led to the deplorable, and perhaps wishful, thought that restoration of testis function produces rejuvenation.

Therapeutic Indications.—The use of androgens is clearly indicated after bilateral orchiectomy or in severe eunuchoidism. A few patients are able to compensate for their defects and make fairly adequate adjustments, but the majority complain of fatigability,

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sexual incapacity and other sequelae of testicular insufficiency.

Widely divergent opinions are held, however, regarding the management of the boy in his early teens who is not exhibiting the usual signs of sexual maturation. There is no uniform age for the onset of puberty, and unfortunately the armamentarium does not include as yet a technic for differentiation with certainty between boys with delayed maturation and those who will never mature properly.

The benefits from early treatment with endocrine preparations must be questioned and compared with the limitations and dangers imposed. Many phenomena characteristic of testicular insufficiency disappear while the patient receives treatment, but the only permanent changes thought to be avoided by the early adoption of endocrine measures are the skeletal proportions of eunuchoidism. Possibly escape might be had from some of the psychologic trauma experienced by the sexually immature, but it is debatable whether early acceptance of a need for continued replacement therapy is more comforting than the hope of eventual establishment of normal physiologic functions.

In opposition to hastily undertaken procedures is the fact that a large percentage of the boys with less evidence of sexual maturation than their associates do eventually mature. The misconception has arisen that endocrine treatment will encourage the body to assume normal reproductive functions. Suffice it to say, there exists no basis for the belief that temporary use of gonadotropins or androgens will result in the initiation and continuance of normal testicular activities. Instead, possible dangers have been indicated by the report of precocious closure¹⁶ of the epiphyses following administration of large amounts of androgens.

Moreover, it must be remembered that in some instances sexual immaturity is complicated by hypothyroidism or other conditions not amenable to treatment with androgens or gonadotropins.

In my opinion the rationale for the early use of gonadotropic or androgenic therapy in males with less than average sexual maturity at the age of adolescence is the prevention of eunuchoid changes that would otherwise be permanent. The known preventable defects are chiefly skeletal and are believed to be due to prolongation of the period of growth beyond the ordinary chronologic time of epiphyseal union, not to any augmentation of growth at an early time. Thus it seems possible to control skeletal growth even if endocrine treatment is withheld until the probability of normal body function has been excluded. Extended delay until the patient is stigmatized by a markedly eunuchoidal stature is not countenanced. In brief, the facts now available suggest that there is little gain and that there may be harm in the early administration of gonadotropic or androgenic preparations to boys with delayed maturation.

Drug, Dose and Route of Administration.—Both gonadotropins and androgens have been used in the therapy of eunuchoidism. Obviously gonadotropins depend, for their effects, on the capacity of the testis to secrete androgens and hence are of no avail in the case of the castrate or of the person whose testes are

not responsive.¹⁷ Moreover, since gonadotropins do not initiate spermatogenesis, direct therapy with a stable crystalline androgenic drug is preferable to stimulating testicular secretion to a variable degree with an extract containing proteins. If in the future more satisfactory preparations of gonadotropic substances are developed and proved capable of initiating spermatogenesis, this choice of management is subject to modification.

Pharmaceutic houses prepare ampules with 25 mg. of testosterone propionate per cubic centimeter, an amount which has been stated to be a satisfactory daily dose.¹⁸ In our experience 20 mg. of testosterone propionate in 1 cc. of oil injected intramuscularly six or seven times a week has been satisfactory in all but a single instance. The injection of 20 mg. three times a week has not been adequate for good clinical effect and has not been sufficient to maintain urinary androgens at the average levels found in normal men.

Deanesly and Parkes¹⁹ demonstrated that subcutaneous implantation of testosterone in the form of compressed pellets is economical and requires replacement only at long intervals. A more prolonged and even course of stimulation is obtained than with other methods.²⁰ A trocar has been described²¹ for use with the human subject, but no discussion has been given of the important matter of the surface area of the pellets. We have observed satisfactory stimulation in the eunuch following implantation of 4 pellets of testosterone each of which is 5 mm. in diameter and 7 mm. in length, with a total surface area of about 750 sq. mm. and a total weight of 960 mg. The dangers in treatment with even small pellets are apparent, and it is regrettable if women or other persons who do not require intensive treatment are subjected to long-continued influence of androgenic substances.

On oral administration, testosterone propionate is absorbed from the gastrointestinal tract²² and a degradation product, androsterone, is excreted by the kidney,²³ but the clinical benefit is slight.²² Apparently such substances are inactivated by the liver.²⁴ Methyltestosterone by mouth exerts an androgenic influence but curiously produces only minor elevation of the titer of urinary androgenic activity.²⁵ As quantities greater in weight than those of testosterone propionate given intramuscularly are necessary to induce androgenic effects, this method is so expensive as to be impracticable at present. Androgens secreted by the testes

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and those absorbed from intramuscular or subcutaneous routes of administration are favored by pathways of blood flow to escape for some time the influence of the liver. The use of rectal suppositories emphasizes the expected difficulties intrinsic in this mode of administration.

Percutaneous administration has been publicized, but information is lacking concerning proper doses and intervals between applications that would maintain fairly constant levels of the drug in body tissues and fluids. The simplicity of this method of application, which permits self treatment by the patient, admits by the same expedient that control of the medication is subject to the whims of the patient.

Results from the Administration of Testosterone Propionate.—Pronounced masculinization and disappearance of many of the phenomena characteristic of testicular insufficiency are obtained²⁶ even in persons castrate for more than two decades or in those whose eunuchoid state has persisted until the middle years of life. Within an hour there are changes in the blood volume and pigments of the skin.¹² Erectile ability may be enhanced, often within a matter of several hours, and spontaneous erections are particularly frequent during the first days after the beginning of treatment.

The genitalia, with the exception of the testes, are stimulated to considerable development. In the eunuchoid man the amount of growth is major, but with severe eunuchoidism, especially in older persons, long-continued treatment is required before there is attainment of a genital size approaching that of normal men.

The levels of androgenic substances in the urine are elevated and may be within the range found in normal men.²² This is largely due to the presence of androsterone.²⁷ Body weight may be increased by several pounds. In 4 eunuchoids²⁸ 1 to 4.5 Gm. of nitrogen were retained per day, the decreased level of urinary nitrogen being reflected in the urea fraction, without evidence of change in the nitrogenous components of the blood; there was also retention of urinary sodium, amounting to 0.33 to 0.55 Gm. daily, and usually of chloride. Muscular development and in some men strength are markedly increased.

The skin becomes flushed and of a darker color. Pigmentary abnormalities give way to a trend in the direction of the type and amount found in normal men. Thus there is increase in the volume of blood (save in areas like the buttocks), in the percentage of oxyhemoglobin and to a lesser extent in the amount of melanin and related substances.¹²

Increased oiliness of skin and hair becomes noticeable. In many but not all patients an acneiform response appears after a latent period of some weeks.

Growth of secondary sexual hair is rapid, the beard becoming stiffer within a few weeks, the axillary and pubic hair more coarse. Later the trunk and limbs acquire long thick hairs.

The vocal range and pitch of the eunuchoid approach those of the mature man. In the postpuberal castrate the pitch used in speaking may be lowered a tone or so and the voice sound hoarse. The mucous membrane of the larynx appears congested and rough, but the

change in vocal pitch and range in the eunuchoid can ensue without marked prominence of the tracheal cartilage or great enlargement of the laryngeal cartilages.

The testes do not assume normal function. Testosterone affords essentially substitution therapy so that administration of the substance must be continued if the results are to be maintained. Maturation of voice and to some extent of the accessory reproductive organs is retained, but regressive changes ensue on cessation of the medication. Obviously, the cost of continued replacement therapy is a matter of deep concern.

OTHER STATES OF TESTICULAR DYSFUNCTION

Cryptorchism.—Despite evidence to the contrary from short time experiments,²⁹ it appears that in long-continued cryptorchism less than normal amounts of androgens are produced,³⁰ but this is scarcely the main issue. More pertinent are the facts that the later stages of spermatogenesis do not ensue properly in testes not in the scrotum³¹ and that approximately 11 per cent of all testicular tumors are found in retained testes.³² Since the incidence of undescended testes in the adult male population is about 0.23 per cent, the correlation of tumor and imperfect descent is about forty-eight times greater than expected from chance association. There is no proof that the ectopic position is responsible for the high incidence of tumors in ectopic testes, but placement of the testis in the scrotum may allow at least an earlier recognition of a developing tumor. Because of the incomplete spermatogenesis and the possibilities of trauma and unobserved development of tumor, it is desirable that ectopic testes be transferred to the scrotum.

False versus True Retention: Intermittent retraction of the testicle continues to be commonly confused with true retention. This wrongly diagnosed condition would respond to any form of treatment, even to injection of saline solution or to mere choice of a more propitious moment for the examination. One cannot but be skeptical of optimistic reports of cases in which the testes descended in from three hours to three days, an alacrity that would put to shame a fast-growing tumor. Adoption of the following technic, full details of which are given elsewhere,¹¹ or of some similar method would allow differentiation between false and true retention and would provide a basis for comparison of the results in cases reported by different investigators:

The subject is placed as much at ease as possible while casual observation and brief palpation for the testes are done. A hot water bag wrapped in a single layer of flannel and containing water at about 115 F. is then put on the scrotum, groin and perineum. The patient is covered with blankets sufficient to insure warmth. Children in particular are reassured by the painlessness of the mock examination, and they can be examined thoroughly after the heat has been applied for

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27. Callow, A. T.; Dorfman and others.^{26b} Dorfman and Hamilton.²⁵ 28. Kenyon, A. T.; Sandiford, L.; Bryan, A. H.; Knowlton, K., and Koch, F. C.: The Effect of Testosterone Propionate on Nitrogen, Electrolyte, Water and Energy Metabolism in Eunuchoidism, *Endocrinology* 23: 135-153 (Aug.) 1938.

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thirty minutes to induce relaxation of those muscles in the scrotum and groin which cause retraction of the testis.

A carefully taken history and the status of scrotal development provide valuable confirmatory evidence.

Correction of True Retention: Recognized procedures include the time-honored reliance on nature, the administration of endocrine products and orchiopexy. Reliance on nature to effect descent of the testes has in its favor tradition and the avoidance of rash procedures but has been criticized on the ground that, if descent is not spontaneous, irremediable changes may occur before corrective measures are applied. A final decision cannot be made in view of the fact that there are at present no thoroughly reliable data regarding the incidence of descent at puberty in cases of true cryptorchism. The available records are open to criticism on the ground that they include intermittently retracted testes. A well considered and substantiated body of opinion among surgeons, endocrinologists and pediatricians is necessary before the final choice is made between waiting a few years for the effect of natural puberty and alternative use at an early date of aggressive measures. It is urged that in the preparation of data a distinction be made between unilateral and bilateral cryptorchism, since in cases in which one testis has descended satisfactorily a state of endocrine deficiency, such as hypothyroidism, has been in my experience less frequent than in bilateral retention.

The commonly used endocrine preparations are chorionic gonadotropins, urinary extracts possessing luteinizing activity in the female. Enthusiastic reports have been made since these substances were first employed by Shapiro³³ and the method demonstrated experimentally in monkeys by Engle.³⁴ Critical study has shown that about one of every five retained testes responds to this treatment.³⁵ Androgens have been tested as an alternate choice, since presumably a gonadotropin exerts some of its actions by stimulating testicular secretion and since certain of the effects produced with luteinizing preparations can be duplicated with androgens. The results are discouraging,³⁶ however, indicating definitely that the administration of androgens is of little value in producing descent of testes.

In my opinion, endocrine substances should be expected, on rational grounds, to effect descent only in instances in which the body levels of these substances are low and there is no mechanical adhesion or other permanent barrier to progression of the testicle. The advisability of their use before the age of puberty must be evaluated with regard to the function and fate of the ectopic testis (with the realization, however, that the high incidence of testicular tumors is not found until some time after puberty), the dangers of excessive and long-continued administration of powerful endocrine compounds and the comparative effectiveness of exogenous and endogenous gonadotropins. Some surgeons are of the opinion that under endocrine stimulation the testes descend or, failing that, the scrotum and cord structures are stimulated to such growth that orchiopexy is more easily accomplished.

In any selection of methods of choice in the management of testicular retention, data furnished by the surgeons must weigh heavily, since cryptorchism remains, despite some enthusiasm for treatment with endocrine products, primarily and in most cases a surgical problem.

Sterility.—For purposes of brief discussion, sterility may be subdivided into factors related to spermatogenesis and factors related to transportation and deposition of sperm in the female reproductive tract.

Spermatogenesis is dependent on gonadotropic stimulation by secretions of the anterior lobe of the pituitary, residence of the testes in a site like the scrotum and satisfactory vascularization. It is now believed that spermatozoa capable of fertilizing human ova under normal conditions generally have at least a minimal count³⁷ per unit volume and only a certain proportion of abnormal forms.³⁸

In the rat, spermatogenesis can be maintained by androgens and stimulated or maintained by gonadotropins. In the primate, however, spermatogenesis is more difficult to control.³⁹ Claims have been advanced that under certain optimum conditions gonadotropins from urine⁴⁰ and androgens⁴¹ can increase the number of spermatozoa in man. It would appear, however, that with androgens the number of spermatozoa is decreased rather than increased⁴² and that no endocrine substance now available has been proved adequate for the stimulation of spermatogenesis in the eunuchoid man. The somewhat negative observations with present techniques argue only for conservative methods of treatment and do not preclude the possibility that in the future the use of endocrine substances will be applicable to the problem.

Difficulty of intromission is common, although in many of the purported cases it is questionable that the interest is solely that of fertility. Testosterone propionate increases the capacity for erections in men with deficient testicular secretions, but the ability to obtain erections depends on more than the presence in the body of androgens. Vigorous erections have been observed repeatedly in persons with pronounced organic and functional signs of testicular insufficiency and with undisputedly low titers of urinary androgenic activity. Moreover, even though the elicitation of erections in the young and the middle-aged castrate or eunuchoid man is abetted by androgens, it is not to be assumed that, because of the inexorabilities of age, old men present a comparable situation of testicular insufficiency. Of old men with the symptom complex of benign hypertrophy of the prostate who were given testosterone propionate in trial therapy, the capacity for erection was not augmented in all, and when present it proved to be distracting and ill adapted to the needs of both husband and wife.

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Precocious or Abnormal Function of the Testis.—Hypersecretory states of many endocrine glands have been recognized, but thus far not of the testis—even though in the past few years such states might have been simulated as a result of the administration of large amounts of crystalline androgens to patients. Abnormal and precocious function of the testis is recognized. Certain testicular tumors produce enormous amounts of gonadotropic substances,⁴³ which serve for diagnosis and for ready identification of the presence and functional state of metastases. With more complete study of cases of abnormal testicular function, it may be that, in addition to precocious function, in which the effects seem to be largely due to stimulation by androgens at an early age, hypersecretory states will be distinguished. It must be recalled, however, that the human body possesses a great capacity for rapid inactivation of large amounts of androgenic substance.²²

States in Which Dysfunction of the Testis Is Dubious or Unproved and Conditions in Which Androgens Have Been Tried Because of Pharmacologic Actions.

—Perhaps the most widely known trial of testosterone for its pharmacologic actions unassociated with testicular functions is that in certain gynecologic disorders, but testosterone has also been employed in men in whom testicular insufficiency was questionable. The relation of the prostate to testicular secretions and the reactions of this gland to both estrogens and androgens led inevitably to tests of the usefulness of testosterone therapy in men with benign hypertrophy of the prostate. In evaluating claims of beneficial results it must be remembered that spontaneous improvement may occur and that androgens induce in some persons a sense of well-being entirely apart from the capacity to pass a stream of urine. Improvement in control of the urinary stream during administration of testosterone may not be due necessarily to any decrease in the size of the prostate and may, in a few instances, be accompanied by an apparent increase in the size of the prostate.⁴⁴ Further study would be more enlightening if in reports on the treatment of patients with the symptoms of benign hypertrophy of the prostate investigators would state not just the percentage of patients benefited but also the extent to which the claimed improvement correlates with the urologic condition and its changes, if any, in each patient.

The development of muscle and greater dynamometric strength when the castrate is given androgen and, indeed, the difference in this regard between the average man and woman have suggested the trial use of androgens in certain types of muscular weakness. In 2 men who had myotonia atrophica and genital atrophy a limited amount of improvement was obtained on administration of testosterone,⁴⁵ viz., a status approximately 25 per cent of that of the normal male. Regression followed discontinuance of treatment. No report has appeared in which androgens have been shown to be of value in the correction of muscular conditions not accompanied by diminished testicular secretion.

The interrelations of sexual and behavioral spheres have already induced studies of the use of testosterone

in various psychiatric conditions. In this regard it is unfortunate that the concept of rejuvenation has appealed to some investigators. Careful examination is necessary to distinguish any direct influence on behavior from effects due to recognition of the organic and functional changes produced by the androgen. One cannot but urge that controlled experiments be made, including the injection of plain oil and the withholding from the patient of information that the drug is a "sex hormone."

The effects of testosterone on vascular dynamics will undoubtedly lead to trials of this substance in certain of the peripheral vascular diseases.

With respect to the states in which testicular insufficiency is dubious and androgens are utilized for their pharmacologic actions, recommendation must be withheld. These matters require further and critical study. It is probable that in conditions in which the use of testosterone may, perhaps, eventually be acceptable, no sweeping utility is to be expected; for example, only a selected type of muscular weakness would be benefited.

LIMITATIONS, CONTRAINDICATIONS AND DANGERS

The foregoing list of phenomena influenced in sundry manners by androgens is limited by space and by the boundaries of present knowledge, but it serves to indicate the widely ramifying influence of these substances on bodily economy and to give sober reflection to the physician who might feel constrained to use carelessly the active and valuable androgens now available.

The use of large doses in a child can result in closure of the epiphyses and in development of male secondary sexual characters. In the sexually mature person exogenous androgen depresses reproductive functions, such as spermatogenesis⁴² and gonadotropic secretion in the pituitary.⁴⁶

If large doses are employed in women, masculinization results. This includes hirsutism, hoarseness and deepening of the voice, interruption of reproductive function and growth of the clitoris and of the body musculature. These changes seem to be largely temporary, but permanent modification is obtained experimentally if the female is subjected to the influence of much androgen at an early age, especially prenatally.⁴⁷

The temporary use of endocrine preparations does not stimulate an endocrine gland to function thereafter of its own accord. Testosterone is used in replacement therapy or for its pharmacologic actions. Treatment is often long continued, and the cost of the therapy is a major consideration.

There is latent danger in that conditions which need immediate attention of a specialized nature may be allowed to continue untreated because the patient experiences a sense of well-being on receiving testosterone. Moreover, euphoria is not uncommon and should be guarded against by strict insurance that the patient gets rest and does not overexert. Stimulation of an older man with androgens may cause him to feel younger and to attempt to lead the life of a younger man. The situation is to some extent like that of pouring new wine into old bottles.

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Council on Physical Therapy

THE COUNCIL ON PHYSICAL THERAPY HAS AUTHORIZED PUBLICATION OF
THE FOLLOWING ARTICLE.

HOWARD A. CARTER, Secretary.

CORSETS AND BACKACHE

FRANK R. OBER, M.D.

BOSTON

This article is intended to bring up to date one published thirty years ago by Reynolds and Lovett¹ entitled "An Experimental Study of Certain Phases of Chronic Backache." The observations made on corsets by those men at that time were so fundamental that it would seem appropriate to present them again in a reedited form. The authors spent a long time in the experimental study of physics of statics, and of balance and fatigue as related to statics.

Numerous living models were employed and all sorts of corsets were used, and the following conclusion with respect to corsets was arrived at: "In their effects on the anteroposterior position of the body, corsets may be divided into three classes—neutral, bad and good corsets."

It is probably safe to say that all women wore corsets thirty years ago, but today the number is much less. As a matter of fact, it is more difficult to induce a woman suffering with backache to wear a corset than it is to induce a man to do so. Neutral and bad corsets are still being manufactured and sold.

Neutral Corsets.—These corsets were found to be worn more often than any other type. Many of them had bad effects on posture and balance and but few were beneficial, and most ready-made corsets at best were found to be indifferent.

Bad Corsets.—Bad corsets could produce static backache. All of these had three common characteristics:

1. They were too long behind and too short in front.
2. They were cut to exert the greatest pressure at the top and bottom behind, and at the waist line in front, especially.
3. The sacral curves were strongly marked but otherwise they did not follow the rest of the anatomy of the back.

Good Corsets.—

1. They were short behind and long in front, especially at the bottom.
2. They fitted snugly around the pelvis, especially between the iliac crests and the trochanters.
3. They were "incurved" at the waist line at the back and showed no curve in front.

Reynolds and Lovett made their observations over a period of years before publishing the results of their study. These fundamental principles are as true today as they were thirty years ago.

A corset which does not fit the patient properly will not help a lame back; on the contrary, such a garment may increase backache.

A corsetier's job is much like that of a sailmaker's. If the sails are not cut correctly, they do not draw right and hence the boat will not sail as fast as it should.

There is a real art to cutting sails, and the same is true in the cutting of cloth for corsets.

The functions of a corset are to restrict motion, to afford protection and to restore balance. Any back support which does not accomplish these three things will not do much toward relieving a backache. The physician who cares for patients suffering from lame back has not done all he can when he turns the patient over to the corset maker. The physician should be the one to know whether a corset fits properly or not, and, if it does not, he should see to it that the corsetier makes the necessary alterations until it does fit. A tailor-made corset is the best if the corsetier is adept at making corsets. A ready-made corset of the good type can be remodeled and in most instances is satisfactory, provided the corset fitter does what the physician wants.

The following requirements are essential in applying a corset:

1. It should be long enough in front to support and to lift the abdomen.
2. It should follow the curves of the back snugly; that is, the back steels of the corset must be bent so that this occurs.
3. It should be long enough behind to give a good hold over the buttocks, and it should not quite reach the inferior angles of the scapulas.
4. It should not be tight around the waist in front.
5. The most important feature of any corset is the way it fits over the iliac crests. Few corset makers realize how essential it is to secure this requirement. It is here that the knowledge and art of the corset maker will be revealed. Unless the corset maker learns to do this, the corset will not be a success. The cloth of this part of the corset must be so cut that the crest of the ilium fits into a sort of pocket. If this is not done, then the corset will slide up or roll backward over the crests and therefore will be useless.
6. If a corset is effective it will produce changes in the patient's posture. For this reason it is necessary to inspect the corset from time to time and make any necessary alterations to meet these changes.
7. A back-lace corset is more easily adjusted than the solid back garment.
8. Corsets which are constructed with sacral pads inside or extra belts outside are examples of lack of knowledge on the part of the corsetier in the correct construction of a corset.
9. Any corset or belt which encircles the pelvis as if it were in a vise is an undesirable piece of apparatus, because pressure usually does not relieve a lame back.
10. Finally, when the backache and its associated symptoms have disappeared, physical therapy measures to restore the patient's own corset muscles, which are the abdominal and the gluteus maximus muscles, should be prescribed, and, when these muscles are strong enough to perform their functions, the corset may be omitted.

234 Marlboro Street.

Rest Clubs.—The time may come when we shall have rest clubs as well as athletic clubs; but not yet. We are still too much inclined to boast of the small amount of rest on which we can get along. We still cling to the mad desire to get everything done in a day. To entice the average American to rest in the daytime one must camouflage the rest with mysterious measures such as light treatments, massage or sun bathing. Possibly when as a nation we have grown up we shall learn to take life more leisurely, to get a little more out of life as we go along, with a friendly chat and a cup of tea to break the tension of the day.—Diehl, Harold S.: *Healthful Living*, New York, McGraw-Hill Book Company, Inc., 1941.

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THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

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SATURDAY, APRIL 26, 1941

DOCTORS FOR BRITAIN

To the American Red Cross last week came an appeal from the British Red Cross for one thousand American doctors to reinforce the staffs of the Emergency Medical Service and the Royal Army Medical Corps. The American Red Cross is presenting this appeal to the medical profession. Applicants will undertake no obligation to enter military or naval service, but if they choose service in the Royal Army Medical Corps their duties will be confined to the furnishing of medical attention to the sick and wounded. In this service they will be protected by the Red Cross Treaty of Geneva, respected by all belligerents, under which members of medical units are granted special privileges and protection.

On receipt of this communication, the President of the United States said:

The British Red Cross has appealed through the American Red Cross for up to one thousand young American doctors to help it meet an acute shortage of doctors in British military and civilian hospitals. As President of the American Red Cross, I heartily approve this request. When the British appeal came to my attention, I asked the opinions of the surgeon generals of the Army, Navy and Public Health Service. They joined me in believing we should encourage eligible American doctors to volunteer for this humanitarian service with our British friends. I also am informed that the Division of Medical Sciences of the National Research Council, the American Medical Association, the American College of Surgeons and the American College of Physicians have offered their assistance to the American Red Cross in meeting this emergency. The young doctors whom Great Britain so desperately needs can do much to heal the wounds inflicted alike upon civilians and military in this cruel war. Those who volunteer will be enrolled by the British Red Cross and will work under the protection of the Red Cross Treaty of Geneva, a covenant which has been respected by the belligerents since 1864. To any American doctor who is eligible and able to go, service in this cause presents a splendid opportunity.

So pressing is the need for these volunteer physicians that the support of interested governmental agencies has been freely given. The Departments of State and Justice have clarified the legal aspects of the project, giving it their full support. The Army, the Navy and

the U. S. Public Health Service have endorsed the appeal. The Surgeon Generals of the Army and the Navy have consented to the offering of this opportunity to physicians in their respective Reserve Corps who have not yet been called to active duty. The Selective Service System will give consideration to the deferment of those who volunteer.

The officials of the American Red Cross have been assured that the American Medical Association will lend every possible assistance to them in their endeavor to meet this request, which has come officially from the British Red Cross. Through the use of the punch card system of the American Medical Association, which lists the qualifications of American physicians, the American Red Cross has been supplied with lists of young physicians who may be eligible for service under this program.

The requirements for these positions, as stated elsewhere under the heading "Medical Preparedness" in this issue of THE JOURNAL, are somewhat rigorous: The physician must be a citizen of the United States of America, preferably without persons dependent on him for a livelihood; he must be no more than 40 years of age for service in the Royal Army Medical Corps, not more than 45 for the Emergency Medical Service; he must have a diploma from an American or Canadian medical school listed as class A by the Council on Medical Education and Hospitals of the American Medical Association; he must have had an internship, and he must be in good mental and bodily health and free from any physical defect that would be likely to interfere with his duties. The young man who is enrolled for this service will not forfeit his American citizenship, and he will not be required to take an oath of allegiance to Great Britain.

In April 1917 the United States government tendered to Great Britain one thousand medical officers. Great numbers of patriotic young men volunteered and more than thirteen hundred were selected to fill the quota. The records of those young men are available in a book by W. A. R. Chapin. Now, twenty-four years later, it is inspiring to look over the names of those men and to realize how many of them occupy positions of significance in American medicine. Now again comes a call for volunteers—for young physicians anxious to serve in their professional capacities in a service that will yield practice and prestige in the cause of patriotism. Such aid as they can give is more than the lending of funds or the leasing of ships. It is a human and professional devotion of themselves to democracy.

Eligible physicians should secure further details and application forms from the American Red Cross in Washington. The Division of Medical Sciences of the National Research Council has established a special Subcommittee on Medical Personnel for Britain, which will aid in passing on the qualifications of those who apply. This committee consists of Dr. O. H. Perry

Pepper, past president of the American College of Physicians, Chairman; Dr. Morris Fishbein, Editor of THE JOURNAL, and Dr. Evarts A. Graham, president of the American College of Surgeons. The Committee on Medical Preparedness of the American Medical Association is aiding with the selection of local representatives and local examiners. American medicine cannot fail to answer again this call for a service which only American medicine as a whole can render.

LUNG IRRITATION FOLLOWING THE USE OF CERTAIN OILY PREPARATIONS

Recently THE JOURNAL published a report by Cannon,¹ issued under the auspices of the Council on Pharmacy and Chemistry, on the problem of lipid pneumonia, or what is frequently called "lipoid" or oil aspiration pneumonia. This type of pneumonia varies in severity, depending on the kind and amount of oil aspirated, since some oils are especially irritating. The concomitant entrance into the lungs of the irritating oil and pathogenic micro-organisms is presumably responsible for the particularly serious septic pneumonia which may follow aspiration of oil. In other instances, particularly where only small amounts of liquid petrolatum have been aspirated, minimal pulmonary damage occurs with correspondingly slight symptoms. However, harmful effects may also result from repeated entrance of oil into the lungs, its accumulation in the air spaces and its prolonged irritating effect. The development of this form of lipid pneumonia is so insidious that the diagnosis may be made only by microscopic examination of the lungs.

Contrary to earlier views that lipid pneumonia is essentially a disease of infants and children, or of debilitated persons with defects of deglutition, evidence has accumulated to prove that it affects all ages. Indeed, most of the cases discovered at necropsy are reported to have occurred in adults. Healthy persons may develop severe types of lipid pneumonia, especially from the prolonged intranasal use of medicated liquid petrolatum. The use of medicated liquid petrolatum in medical practice or for home medication, while a more easily controlled cause of oil aspiration, is of particular importance. The extensive advertising to the public by manufacturers of "nasal oils" for "colds" indicates the need for warning. Moreover, this type of medication is abandoned but slowly by many persons who have used oily nose drops without apparent ill effects. The choice of liquid petrolatum as a "bland" vehicle for various medicaments used in the treatment of infections of the respiratory tract is particularly unfortunate because it is sufficiently light to enter the glottis without eliciting the cough reflex; then it is either aspirated or gravitates

to the alveolar spaces. Many animal oils, particularly fish liver oils, are highly irritating to the respiratory tissues, whereas some of the vegetable oils, such as olive oil, cottonseed oil, sesame oil and poppyseed oil, are relatively less irritating. The use of iodized oils in bronchography has apparently had little serious after-effects in the lungs. Several of the vegetable oils, notably croton oil, castor oil and peanut oil, are exceedingly active irritants of tissues. Liquid petrolatum, although less acutely damaging than the oils mentioned, is far from bland. Acute pulmonary edema has followed aspiration experimentally in rabbits. Its chronic effects in the lungs are particularly severe owing to the development of abundant fibrosis. In a previous report² the Council indicated that some types of iodized oils, especially the animal oils, may cause considerable direct irritation when used for bronchography.

The insidious nature of onset of the chronic form of lipid pneumonia, especially that due to liquid petrolatum, indicates the importance of differentiating the disease from other more or less obscure pulmonary conditions, such as pneumoconiosis, chronic bronchitis or bronchiectasis, chronic asthma, passive congestion, unresolved pneumonia, chronic fibroid tuberculosis, fungous infections of the lungs and bronchogenic carcinoma. Careful clinical diagnosis is important not only from the point of view of errors in treatment but also in assisting in future evaluations of the incidence of the disease. From evidence available at present the incidence of lipid pneumonia cannot be ascertained. The future recognition of the condition depends not only on careful clinical diagnosis but also on the efforts of the pathologist to perform systematic routine histopathologic examinations of the lungs in every necropsy. Other reports by Bishop³ and Kirklin,⁴ not cited in the Council report, further attest the increasing importance of the disease.

As indicated in the Council report, lipid pneumonia is essentially a man-made disease, which can be prevented largely by the extent to which the conditions now known to favor its development are eliminated. Greater care to avoid forced feeding of milk and of fish liver oils and liquid petrolatum to infants as well as to comatose patients may help to prevent this type of pneumonia. The problem of prevention of cases due to intranasal medication with nasal oils is more hopeful and should stimulate a reconsideration of the rationale of local medication of the upper respiratory tract. The use of a physiologic aqueous solution as a vehicle for medicaments instead of liquid petrolatum appears to offer a preferable alternative in the local treatment of the upper respiratory tract. The medical

2. Dangers of the Injection of Iodized Oils, J. A. M. A. 99:1946 (Dec. 3) 1932.

3. Bishop, P. G. C.: Oil Aspiration Pneumonia and Pneumolipoidosis, Ann. Int. Med. 13:1285 (Feb.) 1940.

4. Kirklin, B. R.: Lipoid Pneumonitis, Radiology 35:261 (Sept.) 1940.

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profession can take the leadership in the educational campaign to eliminate the widespread practice of self medication with nasal oils by the public.

THE JOURNAL⁵ as well as the Council on Pharmacy and Chemistry has previously warned against the danger of "lipoid" pneumonia following the oral or intranasal use of liquid petrolatum and other oils.

Current Comment

MEDICAL SERVICES RECEIVED

The United States Public Health Service continues its series of additional analyses of earlier studies with one describing the receipt of medical services as shown by the National Health Survey.¹ The conclusions really have little novelty. They show that:

1. The percentage of illnesses which received medical attention varied markedly with income and also with size of city for the same income group.

2. The amount of care per patient treated by a doctor in the lower economic status groups (especially the relief) was below the averages for the higher income group.

3. The percentage hospitalized of those with disabling illnesses was less in the lower incomes and relief groups.

4. Bedside nursing care by a private duty nurse was received for only a small proportion of illnesses in relief families, the percentages rising rapidly with increasing income. The reverse was true in the case of services by a visiting nurse.

5. The percentage of illnesses receiving medical care was at a maximum in the age group 25-64 and at a minimum in childhood. . . . Services per case reflected particularly the increasing severity of the individual case of illness as age advanced.

6. The amount and type of medical care received varied with the nature of the disease, the proportion of disabling illnesses not receiving care varying from about 38 per cent for communicable diseases, colds, influenza, and so on to about 6 per cent for tonsillitis (largely tonsillectomies), diseases of the digestive system, accidents and degenerative diseases.

7. There was a relative lack of private duty nursing and hospital care among the Negro population, especially in the smaller cities in the South, and a greater proportion of Negroes received care in public clinics and from visiting nurses.

There is nothing especially new about the fact that in a society with wide income differences the amount and quality of the medical service as well as of education, amusement and especially of such necessities as food, clothing and shelter vary according to income. The difference, however, is apparently far less for medical service than for any of the other essentials of life. Those on relief and having an annual income of less than \$1,000 received physicians' care in 78 per cent of their illnesses, while the percentage for those with an annual income of over \$5,000 was 89. When the character of the diseases treated is considered it is found that the widest difference in the percentage of persons receiving medical care in the income extremes was 20 per cent for communicable diseases, 18 per cent for colds and influenza and 11 per cent for rheumatism. While statistics do not exist by which to make

a comparison with earlier years, all evidence available would indicate that the medical service received today is much greater in quantity and infinitely better in quality than at any previous period and that it is continuously improving.

"DRUG-FAST" PNEUMOCOCCI

Schmidt, Clausus and Starks,¹ of the University of Cincinnati, have reported that pneumococci isolated from animals inadequately treated with sulfapyridine not only have an acquired resistance to sulfapyridine but also are equally resistant to other sulfonamide derivatives. The development of sulfapyridine "fastness" was first described by MacLeod and Daddi,² who found that pneumococci grown in increasing concentrations of sulfapyridine will finally multiply freely in one hundred times the usual sterilizing concentration of this drug. Mice inoculated with these artificially "accustomed" pneumococci are not cured by multiple therapeutic doses of sulfapyridine. This drug-fastness is of clinical interest. Neter³ found that 0.5 mg. per hundred cubic centimeters of sulfapyridine added to pneumococcic empyemic fluids will usually sterilize these fluids in the earlier clinical stages of the disease. Subsequent specimens from the same patients, however, after routine sulfapyridine therapy, are almost invariably resistant to sulfonamide sterilization, even when the sulfapyridine concentration is increased one hundred fold (i. e. to 50 mg. per hundred cubic centimeters). Successful chemotherapy of such empyemic cases apparently necessitates the finding of a second drug to which these drug-fast pneumococci are susceptible. Schmidt and his co-workers attempted to find such a supplementary therapeutic agent among other sulfonamide derivatives of current interest. These attempts were unsuccessful. Groups of 100 mice each were inoculated with multilethal doses of sulfapyridine-fast strains of pneumococci, with control groups inoculated with the nonfast parent strains of the same cultures. All untreated mice of each group died in from twenty-seven to one hundred and forty-four hours from pneumococcic infection. With the control nonfast parent strains this 100 per cent mortality was reduced to 17 per cent by routine treatment with sulfathiazole, to 13 per cent with sulfamethylthiazole and to 10 per cent with sulfapyridine. With groups inoculated with the drug-fast strains, the mortality was 100 per cent in spite of such treatment. Sulfapyridine-"fast" pneumococci, therefore, are apparently equally resistant to sulfathiazole and sulfamethylthiazole. In his original communication MacLeod⁴ suggested that "sulfapyridine-fast" strains of pneumococci should be treated with type-specific antisera. Whether or not these triple drug-fast strains are susceptible to specific serum therapy has not yet been tested by the Cincinnati biochemists.

1. Schmidt, L. H.; Clausus, C. E., and Starks, Effie: *Proc. Soc. Exper. Biol. & Med.* **45**: 256 (Oct.) 1940.

2. MacLeod, C. M., and Daddi, Giuseppe: A "Sulfapyridine-Fast" Strain of *Pneumococcus* Type I, *Proc. Soc. Exper. Biol. & Med.* **41**: 69 (May) 1939.

3. Neter, Erwin: *J. Infect. Dis.* **67**: 84 (Sept.-Oct.) 1940.

4. MacLeod, C. M.: Chemotherapy of Pneumococcic Pneumonia, *J. A. M. A.* **113**: 1405 (Oct. 7) 1939.

5. Lipoid Pneumonia, editorial, *J. A. M. A.* **114**: 251 (Jan. 20) 1940; Oil Aspiration Pneumonia, *ibid.* **115**: 2183 (Dec. 21) 1940.
1. Britten, Rollo H.: Receipt of Medical Services in Different Urban Population Groups, the National Health Survey, *Pub. Health Rep.* **55**: 2199 (Nov. 29) 1940.

MEDICAL PREPAREDNESS

In this section of *The Journal* each week will appear official notices by the Committee on Medical Preparedness of the American Medical Association, announcements by the Surgeon Generals of the Army, Navy and Public Health Service, and other governmental agencies dealing with medical preparedness, and such other information and announcements as will be useful to the medical profession.

PHYSICIANS REQUESTED FOR SERVICE IN GREAT BRITAIN

Following is information supplied by the American Red Cross for physicians who will consider service with the Royal Army Medical Corps or the British Emergency Medical Service. Application forms and further details may be secured from the American Red Cross, Washington, D. C. The fundamental qualifications are as follows:

The applicant:

1. Must be a citizen of the United States of America.
2. Must be no more than 40 years of age for service in the Royal Army Medical Corps and no more than 45 years of age for service in the Emergency Medical Service.
3. Must hold a diploma from an American or Canadian medical school of class A standing. The professional qualifications of the applicant will be passed on by a subcommittee named by the Division of Medical Sciences, National Research Council, working in collaboration with the American Medical Association, the American College of Surgeons and the American College of Physicians.
4. Must have had at least one year of satisfactory clinical hospital training in a hospital registered by the American Medical Association. For the Emergency Medical Service candidates must have been in practice at least five years and not more than ten years.
5. Must be in good mental and bodily health and free from any physical defect likely to interfere with his duties. The physical qualifications of the applicant will be determined at a physical examination to be made when and where the applicant is instructed to appear for it. Travel expenses for the visit to the medical examiner will be paid by American Red Cross.
6. Must be eligible for a British visa.

The applicant, if accepted, is not to be enrolled as a soldier or sailor but solely for the performance of medical service.

Accepted applicants will be referred by the American Red Cross to the British Red Cross or its representatives for the details of transportation and entrance into service.

INFORMATION CONCERNING SERVICE WITH THE ROYAL ARMY MEDICAL CORPS

1. Candidates accepted will be eligible for appointment to commissions in the Royal Army Medical Corps.

2. *Retention of American Citizenship.*—An applicant appointed to the Royal Army Medical Corps will not forfeit his American citizenship, since he will not take an oath of allegiance. However, if an American citizen accepting service with the Royal Army Medical Corps should be at the same time a British subject, i. e. have dual nationality, he would lose his American citizenship.

3. *Status Under Selective Service Act.*—Arrangements have been made with the National Headquarters of the Selective Service System whereby consideration will be given to the deferment of those selected under this program, and the granting to them of permission to leave the country.

4. *Rank in Royal Army Medical Corps.*—Appointment to commission and pay will date from embarkation. The first

commission of the approved applicant will be in the rank of Lieutenant, with promotion to rank of Captain after twelve months of satisfactory full pay service. Subsequent promotion will be by selection and will be based on general merit.

5. *Tenure of Service.*—The minimum tenure of service in each instance is one year from the date of embarkation. The contract will be renewable each successive year. Accepted applicants may also volunteer for the duration of the war.

6. *Transportation To and From Duty.*—The candidate accepted will receive free transportation from his home in the United States of America to the point of duty. Instructions for transportation will be issued through the agency of the American Red Cross. On termination of service the officer will be granted free transport to a selected place of residence in the United States of America.

7. *Passport.*—On acceptance of the candidate as eligible (see Requirements) he will be certified to the Department of State. The accepted applicant will then make application himself to the Department of State for a passport.

8. *Pay and Allowances.*—(a) Basic Pay. Candidates will receive the British rates of pay and allowances in the Royal Army Medical Corps. The following rates of pay are applicable:

Rank	Daily Rate			Approximate Equivalent Annual Rate in Dollars Calculated at the Present Rate of \$4.025 to the Pound
	£	s.	d.	
Lieutenant	0.	19.	10.	\$1,456.50
Captain	1.	4.	6.	1,800.00

At the end of each year of satisfactory service they will receive a gratuity at the following rates:

		Approximate Dollar Equivalent
Lieutenant	£100	\$402.50
Captain	£150	603.75

If promoted during the course of a year to higher paid rank than Lieutenant the gratuity will be calculated according to the length of service in each rank. These gratuities will be paid in sterling. No gratuity will be payable for any period during which paid rank above that of Captain is held.

Total remuneration for each rank is substantially the same as for the corresponding rank in the United States Army Medical Corps.

Pay and gratuity are subject to British income tax, but this liability will, as a special case, be met by the British War Office, except that

		Approximate Dollar Equivalent
A lieutenant will be liable to pay....	£10.10.0d. a year	\$ 42.26
A captain will be liable to pay.....	£16. 0.0d. a year	64.40
A major will be liable to pay.....	£17. 0.0d. a year	68.42
A lieutenant colonel will be liable to pay	£30. 0.0d. a year	120.75
A colonel will be liable to pay.....	£38. 0.0d. a year	152.95

representing approximately the tax payable on a corresponding income at American rates. The amount payable will be deducted by monthly instalments. Neither basic pay nor gratuity is subject to United States income tax.

(b) Allowances. They will receive an outfit grant of £30 and a further £10 if and when required to purchase tropical

kit. An officer receives rations and accommodation (lodging, fuel and light) in kind, but when these are not provided cash allowances in lieu are issued.

9. *Remittances to the United States.*—Because of the problems involved in pound-dollar exchange, it is difficult, if not impossible, to transfer funds at the present time to dependents residing in the United States.

10. *Compensation for Injuries and Disabilities Attributable to Military Service.*—American officers will be eligible for the same disability compensation as other officers of the Royal Army Medical Corps in the event of disablement or death. Regulations and conditions governing the issue of such compensation, which also apply to certain dependents, are as laid down in the Ministry of Pensions Warrant (current edition) Cmd. 6205 articles 18, 64 and 65. Copies of these articles will be forwarded on request.

11. *Duties.*—An officer of the Royal Army Medical Corps is liable for service in any place where British troops are located or operating. This means, in general terms, Europe, Africa, Asia. At present the more important stations are Egypt, Palestine, India, Burmah, Malaya, China, East and West Africa. The wishes of officers who prefer service in a particular country or countries will be considered and, so far as possible, met, but such an appointment cannot be guaranteed. (See Question 15 in application form.)

All such volunteers must realize that they are liable to serve as medical officers in charge of the native troops of these countries when ordered by the director of medical services therein. Volunteers for India must realize that it is an integral part of their duty to serve under Indian medical officers when so ordered by the Director of Medical Services, India. Any candidate sent to India will therefore be made fully aware of this obligation of service in that country.

The duties required of applicants are those of the general practitioner of medicine. It should be stressed that trained surgeons and other medical specialists are not at present required. As designated, the applicant may serve as medical officer attached to a regimental unit wherever it may be; in the field or not on active operations. He may be employed in military medical units which deal with casualties after they have passed from the care of the regimental officer. These medical units are:

- (a) The field ambulance.
- (b) The motor ambulance convoy.
- (c) The casualty clearing station.
- (d) The ambulance (railroad) train.
- (e) The general hospital.
- (f) The convalescent depot.
- (g) The hospital ship.
- (h) Static formations (service with stationary troops, such as antiaircraft formations).

INFORMATION CONCERNING SERVICE WITH THE BRITISH EMERGENCY MEDICAL SERVICE

1. *The Emergency Medical Service.*—A number of accepted candidates will be eligible for appointment to the British Emergency Medical Service, controlled by the British Ministry of Health and the Department of Health for Scotland. The applicant may choose appointment in the Emergency Medical Service. (See Question 15 in application form.)

2. The requirements for eligibility are the same as for service in the Royal Army Medical Corps, except that candidates (a) must have been in practice at least five years and not more than ten years;

(b) must not be more than 45 years of age.

3. *Tenure of Service and Duties.*—Candidates appointed would be required to sign a contract for whole time employment for one year in the first instance at any hospital in Great Britain which is included in the Emergency Hospital Scheme. Candidates may express a choice for location of service which will be given consideration. The scheme comprises practically all general hospitals in Great Britain whether "voluntary" (private) or "municipal" (public) and provides for the hospital treatment of air raid casualties (whether service or civilian), other service casualties and service sick requiring hospital treatment in Great Britain and a number of special categories

of civilian sick for the treatment of which the British government has undertaken financial responsibility for the duration of the war. Details are shown on the attached specimen letter offering enrolment, acceptance of which constitutes a contract of employment between a member of the service and the minister. (Note specimen letter in Appendix I.) It may be added that the hospitals in the scheme continue to treat the ordinary civilian sick, acute as well as chronic, so that members of the Emergency Medical Service have an opportunity of observing and, so far as their Emergency Medical Service duties permit taking part in, the ordinary work of the hospitals to which they are posted.

4. *Pay.*—Candidates accepted for the Emergency Medical Service will receive the same rates of pay as British subjects, namely, £550 a year (approximately 2,213.75 American dollars as calculated at the present rate of exchange) with full board and lodging, or an allowance of £100 a year (approximately 402.50 American dollars) where board and lodging is not provided. Income tax, although chargeable at ordinary British rates, will be paid by the British Ministry of Health or by the Department of Health for Scotland, but the officer will be liable to pay a sum representing tax at United States rates (£14 a year, or approximately 56.35 American dollars), deducted on a monthly basis. Neither basic pay nor gratuity is subject to United States income tax. Salary is payable from the date of embarkation.

5. *Remittances to the United States.*—Because of the problems involved in pound-dollar exchange, it is difficult, if not impossible, to transfer funds at the present time to dependents residing in the United States.

6. *Civilian Status.*—Members of the Emergency Medical Services are civilians and do not wear a uniform or receive an outfit grant. A brassard denoting membership in the service is supplied.

The question of loss of American citizenship does not arise, since the candidate would be employed in a civilian status.

7. *Status Under Selective Service Act.*—Arrangements have been made with the National Headquarters of the Selective Service System whereby consideration will be given to the deferment of those selected under this program and the granting to them of permission to leave the country.

8. Transportation and passport arrangements and expenses are identical with those in the case of the Royal Army Medical Corps officer.

9. *Compensation for Injuries and Disabilities Incurred in the Emergency Medical Service.*—Members of the Emergency Medical Service who are injured or killed (a) in the course of their employment or (b) as a result of enemy action otherwise than in the course of their employment will be eligible for the compensation payments provided for British subjects under the Personal Injuries (civilians) Scheme.

APPENDIX I. SPECIMEN LETTER OFFERING ENROL- MENT IN THE BRITISH EMERGENCY MEDICAL SERVICE

Form E. M. S. P. 47
MINISTRY OF HEALTH,
WHITEHALL,
LONDON, S. W. 1.
R. A.
March 1941.

ESTAB. E. M. S.
Class I. (U. S. A.).

Sir,

Emergency Medical Service.
Class I Appointments

I am directed by the Minister of Health to inform you that the Emergency Medical Service under his control includes a number of Medical Officers holding whole-time appointments. Although employed and paid by the Ministry, they work under the general administrative control of the governing body of the hospital where they are stationed and their clinical work is not directed by the Ministry. The conditions on which officers who are United States citizens, selected under arrangements made by the American Red Cross and approved by the Minister, are appointed to this Service are as follows:

(1) An Officer is under an obligation to serve in the first instance for a period of twelve months, which will be reckoned from the date of sailing from a United States port for this country, and, subject to approved service, the Minister guarantees him employment for that period. Unless twenty-eight days prior notice is given by the Minister or by the officer, terminating the employment as at the end of that period, the employment will continue on the same terms and conditions, subject to termination at any time on the giving of twenty-eight days previous notice in writing either by the Minister or by the officer.

(2) An Officer should report for duty to the Director-General Emergency Medical Services, Ministry of Health, Whitehall, S. W. 1. (R. A.) as soon as reasonably practicable after landing in this country.

(3) During his period of service an officer is subject to all the rules and entitled to all the privileges applying generally to temporary officers in His Majesty's Civil Service.

(4) Officers enrolled in the Emergency Medical Service may be required to undertake cases in any of the categories for which the Government has undertaken financial responsibility as part of the Emergency Hospital Scheme. These categories at present include the following:

(i) Civilians (including Civil Defense Volunteers and members of the Home Guard) injured by enemy action or in the course of civil defense or Home Guard duties, whether transferred from another hospital or admitted at first instance.

(ii) Officers and other ranks of the Fighting Services (including women's auxiliaries) injured by enemy action or on duty or sick, whether transferred from another hospital or admitted at first instance.

(iii) Members of Dominion or Allied Forces.

(iv) Prisoners of war and interned enemy aliens.

(v) Foreign refugees prior to dispersal to permanent accommodation.

(vi) Sick civilians transferred from other hospitals under the authority of the Minister's Hospital Officers or Group Officers in order to clear casualty beds or in connection with war operations.

(vii) Sick children evacuated under the Government Scheme and not accompanied by an adult relative.

(viii) Transferred Essential War Workers.

(5) Whole-time officers, so far as they are not fully occupied with attendance on the categories referred to in the previous paragraph, are expected to assist generally with the medical work of the hospital to which they are attached, as may be directed by the Medical Superintendent or other Medical Officer in charge.

I am to offer you an appointment on the conditions set out in this letter and to request you to fill in and return the enclosed E. M. S. P. 47A form if you decide to accept the appointment.

If you accept the appointment you will be employed in the first instance as a at a salary at the rate of £550 a year with an allowance at the rate of £100 a year if you are not supplied with board and lodging. Salary is payable from the date of sailing from a United States port, and income tax, although chargeable at ordinary British rates, will be paid by the Ministry, but you will be charged a sum representing tax at the United States rates.

Officers enrolled in the Service are provided with free transportation from their homes and will be repatriated at the termination of their service to their selected places of residence in the United States.

I am, Sir,

Your obedient Servant,

Director of Establishments.

ARMY RESERVE OFFICERS ORDERED TO ACTIVE DUTY WAR DEPARTMENT

The following additional medical reserve corps officers have been ordered to active duty by the War Department:

BAISINGER, Cecil Francis, 1st Lieut., Pasadena, Calif.
BARNER, John Lemuel, 1st Lieut., Des Moines, Iowa.
BARRETT, Ralph Michael S., Captain, St. Louis.
BOLTON, Wilbur M., Major, Cleveland.
BROWN, William, 1st Lieut., Long Island City, N. Y.
COMPTON, Arthur M., 1st Lieut., Portland, Ore.
CORR, William Philip, Major, Riverside, Calif.
CUSTER, Lawrence Reid, Captain, San Francisco.
DAY, Boston Massachusetts, 1st Lieut., San Francisco.
DUNLAP, Harold Jay, 1st Lieut., New Rochelle, N. Y.
DUNSTAN, Edgar Mullins, Major, Dallas, Texas.
FRANK, Samuel Bergman, Captain, New York.
FRANKS, Andrew George, Captain, New York.
GOERING, William H., Captain, Tacoma, Wash.
GOLDEN, Theodore, Captain, New York.
GRAY, Luther Wilson, Captain, Washington, D. C.
HAWKINS, Benjamin L., 1st Lieut., Cincinnati.
HERMANN, Harold Bernard, 1st Lieut., Brooklyn.
JACOBS, Maurice, 1st Lieut., Dorchester, Mass.
LIEBOW, Irving Maxwell, 1st Lieut., Cleveland.
MALCOLM, Donald Claude, Captain, Chicago.
MARRUT, William Martin, 1st Lieut., Hermiston, Ore.
MARKEY, Leo Robert, Major, Cleveland.
McDONNELL, Thomas J., 1st Lieut., Dunmore, Pa.

MORSE, Stanley Fletcher, Jr., 1st Lieut., Sumter, S. C.
MUDD, Richard Dyer, Major, Saginaw, Mich.
MUELLER, Lawrence William, 1st Lieut., Fort Wayne, Ind.
MURBACH, Clarence Franklin, Major, Archbold, Ohio.
NORFLEET, William Jacob, Major, Shreveport, La.
O'CONNOR, Timothy Francis, Captain, Ashtabula, Ohio.
PENHALLOW, Dunlap Pearce, Colonel, Washington, D. C.
RICHARDSON, Fred MacDonald, 1st Lieut., Philadelphia.
SAMSON, Paul Curkeet, 1st Lieut., Oakland, Calif.
SCHRAM, William Saul, 1st Lieut., Newark, N. J.
SCHWARTZ, Herbert Franklin, 1st Lieut., Koch, Mo.
WEITZ, Martin Lester, Captain, Laurelton, N. Y.
WELLMAN, John Morris, 1st Lieut., Lansing, Mich.

CORRECTION

James Marion Crawford.—This name was erroneously published among the medical reserve officers ordered to active military duty in THE JOURNAL, Nov. 30, 1940, page 1892. The name was confused with that of James Marvin Crawford, who is not a physician but is on duty with District E of the CCC Camp at McComb, Miss. Dr. James Marion Crawford is now serving as a first lieutenant in the medical reserve corps at Tuscaloosa, Ala.

FIRST CORPS AREA

The following additional medical reserve corps officers have been ordered to extended active duty by the Commanding General, First Corps Area, which comprises the states of Maine, Vermont, New Hampshire, Rhode Island, Massachusetts and Connecticut:

ASHER, Leonard M., 1st Lieut., Boston, Fort Devens, Mass.
BELLIOTTI, Joseph L., Lieut. Col., Providence, R. I., Fort Banks, Mass.
BRUCE, James G., Captain, Springfield, Mass., Fort Ethan Allen, Vt.
COGSWELL, Thomas G., 1st Lieut., Worcester, Mass., Fort Devens, Mass.
COOK, Aaron, Captain, Waterville, Me., Fort Devens, Mass.
COTTON, John M., Captain, Hartford, Conn., Fort Banks, Mass.
EMMONS, James E., Captain, Newport, Vt., Fort Ethan Allen, Vt.
FAY, Thomas F., 1st Lieut., Augusta, Me., Fort Williams, Me.
FEELEY, John R., 1st Lieut., Bangor, Me., Fort Williams, Me.
FOGG, Alston L., Major, Burlington, Vt., Camp Edwards, Mass.
GLADSTONE, Robert W., 1st Lieut., Pittsfield, Mass., Camp Edwards, Mass.
GLICK, Harry S., 1st Lieut., Leominster, Mass., Fort Banks, Mass.
GOODMAN, Melvin O., 1st Lieut., Manchester, N. H., Manchester, N. H.
GOULD, George I., 1st Lieut., Biddeford, Me., Fort Devens, Mass.
GOULD, Nathaniel, 1st Lieut., Barnet, Vt., Camp Edwards, Mass.

THIRD CORPS AREA

The following additional medical reserve corps officers have been ordered to extended active duty by the Commanding General, Third Corps Area, which comprises the states of Pennsylvania, Virginia, District of Columbia and Maryland:

BRENNAN, Andrew Joseph, Captain, Birdsboro, Pa., Fort Monroe, Va.
BUTLER, Harry Gains, Major, Owings Mills, Md., Fort George G. Meade, Md.
EINHORN, Nathan Harry, 1st Lieut., Philadelphia, Indiantown Gap Military Reservation, Indiantown Gap, Pa.

HARDY, Wilbert C., Lieut. Col., Haverhill, Mass., Fort Adams, R. I.
HASCALL, Theodore C., Major, Riverside, R. I., Fort Rodman, Mass.
HUSSEY, Earle U., Captain, Lynn, Mass., Camp Edwards, Mass.
JARDINE, Ralph R., 1st Lieut., Lyndonville, Vt., Fort Williams, Me.
KEES, Philip Arzt, Captain, Longmeadow, Mass., Camp Edwards, Mass.
KNEPP, James W., Lieut. Col., Bridgeport, Conn., Fort Devens, Mass.
LEANI, Aldo, 1st Lieut., Barre, Vt., Camp Edwards, Mass.
MARBLE, Alexander, Captain, Boston, Camp Edwards, Mass.
MEDALIA, Leon S., Lieut. Col., Boston, Fort Devens, Mass.
MEUNIER, John L., 1st Lieut., Springfield, Vt., Camp Edwards, Mass.
MILLER, Harry B., 1st Lieut., New Britain, Conn., Fort Devens, Mass.
NEVULIS, Anthony V., 1st Lieut., New Britain, Conn., Fort Banks, Mass.
OLANS, Sidney, 1st Lieut., Somerville, Mass., Fort Devens, Mass.
RAFFERTY, Francis B., 1st Lieut., Williamantic, Conn., Camp Edwards, Mass.
ROBBINS, Albert I., 1st Lieut., Roxbury, Mass., Fort Devens, Mass.
SAIA, John L., 1st Lieut., Barre, Vt., Fort Rodman, Mass.
SHUMAN, Hyman Herman, 1st Lieut., Fitchburg, Mass., Fort Devens, Mass.
SKLAVER, Joseph, 1st Lieut., Waterbury, Conn., Fort Adams, R. I.
SULLIVAN, Charles R., 1st Lieut., Pittsfield, Mass., Fort Banks, Mass.
TYLEC, Leo L., 1st Lieut., Union City, Conn., Camp Edwards, Mass.
WEBBER, Wedgwood P., 1st Lieut., Lewiston, Me., Fort Williams, Me.
WELLS, Guy W., Captain, Providence, R. I., Fort Adams, R. I.
WILSON, Walter E., Jr., 1st Lieut., Rye, N. H., Fort Devens, Mass.

GARVIN, Luke Denis, 1st Lieut., Bradford, Pa., Indiantown Gap Military Reservation, Indiantown Gap, Pa.
GRIBOVSKY, Emile, 1st Lieut., Kingston, Pa., Indiantown Gap Military Reservation, Indiantown Gap, Pa.
HAND, Patrick James, 1st Lieut., Glenolden, Pa., Indiantown Gap Military Reservation, Indiantown Gap, Pa.
.....
....., Albert, 1st Lieut., Butler, Pa., Indiantown Gap Military Reservation, Indiantown Gap, Pa.
....., Cormick, 1st Lieut., McDonald, Pa., Indiantown Gap Military Reservation, Indiantown Gap, Pa.
JOYCE, William Thomas, 1st Lieut., Muncie, Pa., Indiantown Gap Military Reservation, Indiantown Gap, Pa.
LAULER, John William, 1st Lieut., Jersey Shore, Pa., Fort Story, Va.

An accident occurred for every two hundred and fourteen hours of flying in 1921 and one for every one thousand, nine hundred and forty-one hours in 1940. In these accidents seventy-three persons were killed in 1921 and eighty-eight in 1940, a death for every thousand hours of flying in 1921 and one for every ten thousand in 1940.

In the current fiscal year the accident rate has increased because of the great expansion in the Air Corps. During the six months ended Dec. 31, 1940 there were eighty-five fatalities; in January there were nineteen and in February twenty-eight. These deaths occurred in seventy-three accidents. Because of the expansion the training period has been nearly halved, and supervisory personnel must be spread more thinly in proportion to the increase.

Airdrome discipline, air control about the airdrome and bad weather are important factors in accidents. The experimental division of the Air Corps as well as scientists in many technical institutions are working on devices to overcome adverse weather conditions.

WAR DEPARTMENT WANTS MORE MEDICAL RESERVE OFFICERS

The War Department has announced that there are several thousand vacancies in the Medical Reserve Corps and that qualified doctors of medicine of draft age are encouraged to apply for commissions in the Medical Reserve Corps regardless of whether or not they have been inducted or are awaiting induction. Successful applicants will be commissioned as first lieutenants, even though it is not practicable to order them to extended active duty at once.

The National Headquarters of the Selective Service System have asked state directors to request local boards to get in touch with all qualified and licensed physicians who have registered under the draft law and encourage them to seek admission to the Reserve Corps instead of inducting them as selectees for military training.

PHYSICIANS IN ACTIVE SERVICE EXEMPT FROM ANNUAL REGISTRATION FEE IN CALIFORNIA

A California law, approved February 3 and immediately effective, exempts from the payment of the annual registration fee of \$2 licensed physicians and certain other practitioners (1) "while engaged in full time active service in the medical corps of the Army, Navy or Marines or in the United States Public Health Service" or (2) while fulfilling their full time period of training and active service, whether as draftees or volunteers, under the Selective Training and Service Act of 1940. The law provides that a licentiate while so exempted shall not engage in any private practice and that exempted persons shall become liable for the annual registration fee on the completion of their period of full service. Exempted persons, however, will have a period of sixty days after becoming resubject to the annual registration fee within which to pay it before being considered delinquent. Any licentiate who completes his period of full time active service within sixty days of the end of the calendar year will be exempt from the payment of the fee for that year.

DR. ABELL URGES RELEASE OF NURSES FOR MILITARY DUTY

Dr. Irvin Abell, chairman of the health and medical committee of the Federal Security Agency, recently issued a statement to employers of nurses on behalf of the recruiting campaign now being carried on through the American Red Cross. Dr. Abell suggested that organizations employing nurses encourage nurses to offer their services for military duty and urged such organizations to hold their positions wherever possible until they return to civilian life. To increase the number of available nurses, Dr. Abell suggested refresher courses for nurses who are now inactive but who are otherwise competent and experienced for nursing staffs. Many of these

nurses have signified their willingness to return to duty during the emergency and could be employed temporarily to substitute for nurses called for military duty.

CONFERENCE OF COUNTY HEALTH PREPAREDNESS COMMITTEES

A conference of county health preparedness committees was held in Albany, N. Y., March 6 on the call of the Legislative Commission to Formulate a Long Range Health Program. The meeting was largely concerned with the relation of these health committees to the local defense committees. Official and voluntary organizations sent representatives. The speakers included Governor Lehman, Lieut. Gov. Charles E. Poletti, who is state coordinator for national defense, and Dr. Robert A. Plunkett, Albany, state superintendent of tuberculosis hospitals, who represented the state health commissioner.

RESERVOIR OF BLOOD PLASMA

The American Red Cross has begun the creation of a national reservoir of blood plasma to be used by the Army and Navy for emergency transfusions as well as for the treatment of civilians injured in disaster, in response to a request from the surgeons general of the two services. Present plans call for the production of 10,000 units of dried plasma. Liquid plasma will also be stored, but the amount has not been determined.

Donors are being enrolled by the Red Cross chapters in the Greater New York area and in Philadelphia. As need arises other chapters will be asked to enroll donors. The processing of whole blood for production of plasma is being done at the laboratories of Sharp and Dohme, Philadelphia.

MEDICAL SUPPLIES GO ABROAD

The Medical and Surgical Supply Committee of America announces that twenty-four ambulances outfitted with a year's supply each of medical and surgical materials are scheduled to leave shortly for Kenya, Africa.

Three Norwegian vessels operating in the British convoy service have received surgical operating sets among other supplies contributed. Each ship will carry three emergency first aid and operating sets placed in the forward, midships and after sections so that at least one might be available in the event that a portion of the craft remains afloat after an attack.

THE LARGEST CLASS AT CARLISLE BARRACKS

Five hundred and sixty-five officers of the various corps of the medical department of the United States Army are now under instruction at the Medical Field Service School, Carlisle Barracks, Pa., for training in tactics, map reading, sanitation, administration and kindred subjects. This is the largest class in the history of this school, and although the number of officers in each class is usually less than one hundred, the facilities at Carlisle Barracks are considered adequate for this emergency class.

MEDICOMILITARY SYMPOSIUM

The fourth annual Medicomilitary Symposium of the Second Military Area was held at the Federal Building in New York, March 26. The program included motion pictures, a demonstration of a court martial and the army laboratory at work, and exhibits on venereal disease control, the ration, skeletal traction apparatus, stab wounds of the chest and fracture therapy. The fourth annual dinner was held at the Columbia University Club, March 29, in honor of Col. Charles M. Watson, corps area surgeon.

Naval Medical Meeting

At the March 3 meeting of medical and dental officers of the Navy at the Naval Medical School, Washington, D. C., Dr. Philip D. Wilson, medical director of the American Hospital in Britain, spoke on "Surgical Work in England."

ORGANIZATION SECTION

THE CLEVELAND SESSION

AMERICAN MEDICAL ASSOCIATION, NINETY-SECOND ANNUAL SESSION

CLEVELAND, OHIO, JUNE 2-6, 1941

OFFICIAL CALL

TO THE OFFICERS, FELLOWS AND MEMBERS OF THE AMERICAN MEDICAL ASSOCIATION

The ninety-second annual session of the American Medical Association will be held in Cleveland, June 2-6, 1941.

The House of Delegates will convene at 10 a. m., Monday, June 2. In the House the representation of the various constituent associations for 1941, 1942 and 1943 is as follows:

Alabama	2	New Hampshire	1
Arizona	1	New Jersey	5
Arkansas	2	New Mexico	1
California	8	New York	19
Colorado	2	North Carolina	3
Connecticut	2	North Dakota	1
Delaware	1	Ohio	7
District of Columbia	1	Oklahoma	2
Florida	2	Oregon	1
Georgia	3	Pennsylvania	11
Idaho	1	Rhode Island	1
Illinois	9	South Carolina	2
Indiana	4	South Dakota	1
Iowa	3	Tennessee	2
Kansas	2	Texas	5
Kentucky	3	Utah	1
Louisiana	2	Vermont	1
Maine	1	Virginia	2
Maryland	2	Washington	2
Massachusetts	6	West Virginia	2
Michigan	5	Wisconsin	3
Minnesota	4	Wyoming	1
Mississippi	2	Alaska	1
Missouri	4	Hawaii	1
Montana	1	Isthmian Canal Zone	1
Nebraska	2	Philippine Islands	2
Nevada	1	Puerto Rico	1

The sixteen scientific sections of the American Medical Association, the Medical Corps of the Army, the Medical Corps of the Navy and the Public Health Service are entitled to one delegate each.

The Scientific Assembly of the Association will open with the general meeting, to be held at 8 p. m., Tuesday, June 3. The sections will meet Wednesday, Thursday and Friday, June 4, 5 and 6, as follows:

CONVENING AT 9 A. M., THE SECTIONS ON

Practice of Medicine.	Preventive and Industrial
Obstetrics and Gynecology.	Medicine and Public Health.
Laryngology, Otolary and	Urology.
Rhinology.	Orthopedic Surgery.
Pathology and Physiology.	Anesthesiology.

CONVENING AT 2 P. M., THE SECTIONS ON

Surgery, General and Abdominal.	Nervous and Mental Diseases.
Ophthalmology.	Dermatology and Syphilology.
Pediatrics.	Gastro-Enterology and Proctology.
Pharmacology and Therapeutics.	Radiology.

The Registration Department will be open from 8:30 a. m. until 5:30 p. m., Monday, Tuesday, Wednesday and Thursday, June 2, 3, 4 and 5, and from 8:30 a. m. to 12 noon, Friday, June 6.

NATHAN B. VAN ETEN, President.

H. H. SHOULDERS, Speaker, House of Delegates.

OLIN WEST, Secretary.

MEMBERS OF THE HOUSE OF DELEGATES

A Preliminary Roster of the Legislative Body of the American Medical Association

The list of members of the House of Delegates for the session is incomplete, as a number of the state associations are yet to hold their meetings at which delegates will be elected. The following is a list of the holdover members of the House of Delegates and of the newly elected members who have been reported to the Secretary in time to be included:

STATE DELEGATES

ALABAMA

J. N. Baker, Montgomery.
A. A. Walker, Birmingham.

ARIZONA

Harold W. Kohl, Tucson.

ARKANSAS

E. E. Barlow, Dermott.

CALIFORNIA

Elbridge J. Best, San Francisco.
Lyell C. Kinney, San Diego.
Lowell S. Goin, Los Angeles.
Edward N. Ewer, Oakland.
Edward M. Pallette Sr., Los Angeles.
Robert A. Peers, Colfax.
William R. Molony Sr., Los Angeles.
Henry S. Rogers, Petaluma.

INDIANA

Don F. Cameron, Fort Wayne.
F. S. Crockett, La Fayette.
Homer G. Hamer, Indianapolis.
George R. Dillinger, French Lick.

IOWA

Thomas F. Thornton, Waterloo.
Arthur D. Woods, State Center.

KENTUCKY

Virgil E. Simpson, Louisville.
J. Duffy Hancock, Louisville.
Arthur T. McCormack, Louisville.

LOUISIANA

James Q. Graves, Monroe.
Leon J. Menville, New Orleans.

MAINE

William A. Ellingwood, Rockland.

MARYLAND

Alfred T. Gundry, Catonsville.
Harvey B. Stone, Baltimore.

MASSACHUSETTS

David D. Scannell, Boston.
Dwight O'Hara, Boston.
Charles E. Mongan, Somerville.
Walter G. Phippen, Salem.
John M. Birnie, Springfield.
Richard H. Miller, Boston.

MICHIGAN

L. G. Christian, Lansing.
Henry A. Luge, Detroit.
Thomas K. Gruber, Eloise.
Frank E. Reeder, Flint.
Claude R. Keyport, Grayling.

MINNESOTA

Francis J. Savage, St. Paul.

MISSISSIPPI

Felix J. Underwood, Jackson

MISSOURI

Arthur R. McComas, Sturgeon.
Homer L. Kerr, Crane.

MONTANA

James H. Irwin, Great Falls.

FLORIDA

Meredith Mallory, Orlando.
Edward Jelks, Jacksonville.

GEORGIA

Olin H. Weaver, Macon.
Charles W. Roberts, Atlanta.
William H. Myers, Savannah.

IDAHO

E. N. Roberts, Pocatello.

ILLINOIS

John J. Pflock, Chicago.
G. Henry Mundt, Chicago.
Rollo K. Packard, Chicago.
Edwin S. Hamilton, Kankakee.

NEBRASKA
Roy W. Fouts, Omaha.
Karl S. J. Hohlen, Lincoln.

NEVADA
Horace J. Brown, Reno.

NEW HAMPSHIRE
Deering G. Smith, Nashua.

NEW JERSEY
Andrew F. McBride, Paterson.
Lucius F. Donohoe, Bayonne.

NEW MEXICO
H. A. Miller, Clovis.

NEW YORK
Samuel J. Kopetzky, New York.
John J. Masterson, Brooklyn.
Frederic E. Sondern, New York.
James M. Flynn, Rochester.
Thomas A. McGoldrick, Brooklyn.
Walter W. Mott, White Plains.
Peter Irving, New York.
George W. Kosmak, New York.
William H. Ross, Brentwood.
Thomas M. Brennan, Brooklyn.
Edward R. Cuniffe, New York.
Terry M. Townsend, New York.
Edward C. Podvin, New York.

Floyd S. Winslow, Rochester.
William D. Johnson, Batavia.
Harry C. Guess, Buffalo.
Emily D. Barringer, New York.
William A. Groat, Syracuse.
James R. Reuling, Bayside.

NORTH CAROLINA
Wingate M. Johnson, Winston-Salem.
William T. Rainey, Fayetteville.

NORTH DAKOTA
A. P. Nachtwey, Dickinson.

OHIO
Ben R. McClellan, Xenia.
Edmund R. Brush, Zanesville.
Carl R. Steinke, Akron.
John B. Alcorn, Columbus.

OREGON
John H. Fitzgibbon, Portland.

PENNSYLVANIA
David W. Thomas, Lock Haven.
J. Newton Hunsberger, Norristown.
Robert L. Anderson, Pittsburgh.
Franklin P. Lytle, Birdshoro.
Charles G. Strickland, Erie.

Walter F. Donaldson, Pittsburgh.
Francis F. Borzell, Philadelphia.
James S. Carpenter, Pottsville.
Leonard G. Redding, Scranton.
Charles H. Henninger, Pittsburgh.
Clarence R. Phillips, Harrisburg.

RHODE ISLAND
Guy W. Wells, Providence.

SOUTH CAROLINA
Joseph H. Cannon, Charleston.

SOUTH DAKOTA
John R. Westaby, Madison.

TENNESSEE
E. G. Wood, Knoxville.
H. B. Everett, Memphis.

TEXAS
Howard R. Dudgeon, Waco.
Alonzo A. Ross, Lockhart.
Edward H. Cary, Dallas.

UTAH
John Z. Brown, Salt Lake City.

VERMONT
B. F. Cook, Rutland.

VIRGINIA
Alexander F. Robertson Jr., Staunton.
Walter B. Martin, Norfolk.

WASHINGTON
John H. O'Shea, Spokane.
Raymond L. Zech, Seattle.

WEST VIRGINIA
Ivan Fawcett, Wheeling.
Walter E. Vest, Huntington.

WISCONSIN
Joseph F. Smith, Vausau.
Stephen E. Gavin, Fond du Lac.
James C. Sargent, Milwaukee.

WYOMING
George P. Johnston, Cheyenne.

ISTHMIAN CANAL ZONE
Lewis B. Bates, Ancon.

PHILIPPINE ISLANDS
Henry S. Waters, Iloilo.

PUERTO RICO
M. de la Pila, Ponce.

DELEGATES FROM THE SECTIONS AND GOVERNMENT SERVICES

PRACTICE OF MEDICINE
J. E. Paullin, Atlanta, Ga.

SURGERY, GENERAL AND ABDOMINAL
Fred W. Rankin, Lexington, Ky.

OBSTETRICS AND GYNECOLOGY
George Gray Ward, New York.

OPHTHALMOLOGY
Arthur J. Bedell, Albany, N. Y.

LARYNGOLOGY, OTOTOLOGY AND RHINOLOGY
Burt R. Shurly, Detroit.

PEDIATRICS
William Weston, Columbia, S. C.

PHARMACOLOGY AND THERAPEUTICS
I. S. Wright, New York.

PATHOLOGY AND PHYSIOLOGY
L. W. Larson, Bismarck, N. D.

NERVOUS AND MENTAL DISEASES
Henry R. Viets, Boston.

DERMATOLOGY AND SYPHILIGOLOGY
Clyde L. Cummer, Cleveland.

PREVENTIVE AND INDUSTRIAL MEDICINE AND PUBLIC HEALTH
Stanley H. Osborn, Hartford, Conn.

UROLOGY
H. C. Bumpus, Pasadena, Calif.

ORTHOPEDIC SURGERY
J. Archer O'Reilly, St. Louis.

GASTRO-ENTEROLOGY AND PROCTOLOGY
Louis A. Buie, Rochester, Minn.

RADIOLOGY
E. H. Skinner, Kansas City, Mo.

ANESTHESIOLOGY
H. S. Ruth, Merion Station, Pa.

UNITED STATES ARMY
George C. Dunham, Washington, D. C.

UNITED STATES NAVY
Harold W. Smith, Washington, D. C.

UNITED STATES PUBLIC HEALTH SERVICE
Warren F. Draper, Washington, D. C.

OFFICERS OF THE AMERICAN MEDICAL ASSOCIATION, 1940-1941

PRESIDENT—Nathan B. Van Etten, New York.

PRESIDENT-ELECT—Frank H. Lahey, Boston.

VICE-PRESIDENT—Parke G. Smith, Cincinnati.

SECRETARY AND GENERAL MANAGER—Olin West, Chicago.

TREASURER—Herman L. Kretschmer, Chicago.

SPEAKER, HOUSE OF DELEGATES—H. H. Shoulters, Nashville, Tenn.

VICE SPEAKER, HOUSE OF DELEGATES—R. W. Fouts, Omaha.

EDITOR—Morris Fishbein, Chicago.

BUSINESS MANAGER—Will C. Braun, Chicago.

BOARD OF TRUSTEES—Thomas S. Cullen, Baltimore, 1941; Arthur W. Booth, Chairman, Elmira, N. Y., 1942; R. L. Scensenich, South Bend, Ind., 1942; Ernest E. Irons, Chicago, 1941; William F. Braasch, Rochester, Minn., 1943; Roger L. Lee, Boston, 1944; E. L. Henderson, Louisville, Ky., 1944; Ralph A. Fenton, Portland, Ore., 1945; James R. Bloss, Huntington, W. Va., 1945.

JUDICIAL COUNCIL—Walter F. Donaldson, Pittsburgh, 1941; John H. O'Shea, Spokane, Texas, 1942; Edward R. Cuniffe, New York, 1944; George Edward Follansbee, Chairman, Cleveland, 1945; Olin West, Secretary, ex officio, Chicago.

COUNCIL ON MEDICAL EDUCATION AND HOSPITALS—Fred Moore, Des Moines, Iowa, 1941; Reginald Fitz, Boston, 1942; Fred W. Rankin, Lexington, Ky., 1943; Charles Gordon Heyd, New York, 1944; H. G. Weiskotten, Syracuse, N. Y., 1945; Ray Lyman Wilbur, Chairman, Stanford University, Calif., 1946; John H. Musser, New Orleans, 1947; W. D. Cutter, Secretary, Chicago.

COUNCIL ON SCIENTIFIC ASSEMBLY—S. P. Mengel, Wilkes-Barre, Pa., 1941; Clyde L. Cummer, Cleveland, 1942; James E. Paullin,

Chairman, Atlanta, Ga., 1943; J. Gurney Taylor, Milwaukee, 1944; A. A. Walker, Birmingham, Ala., 1945; and ex officio, the President-Elect, the Editor and the Secretary of the Association.

COUNCIL ON PHARMACY AND CHEMISTRY (Standing Committee of Board of Trustees)—E. M. K. Geiling, Chicago, 1942; W. W. Palmer, New York, 1942; S. W. Clausen, Rochester, N. Y., 1942; R. A. Hatcher, New York, 1943; Soma Weiss, Boston, 1943; H. N. Cole, Cleveland, 1943; Stuart Mudd, Philadelphia, 1943; J. Howard Brown, Baltimore, 1944; C. W. Edmunds, Ann Arbor, Mich., 1944; David P. Barr, St. Louis, 1944; Morris Fishbein, Chicago, 1945; G. W. McCoy, New Orleans, 1945; Perrin H. Long, Baltimore, 1945; Elmer M. Nelson, Washington, D. C., 1945; Torald Sollmann, Chairman, Cleveland, 1946; W. C. Rose, Urbana, Ill., 1946; E. L. Sevingringhaus, Madison, Wis., 1946; Paul Nicholas Leech, Secretary, Chicago.

COUNCIL ON PHYSICAL THERAPY (Standing Committee of Board of Trustees)—Ralph Pemberton, Philadelphia, 1942; Harry E. Mock, Chairman, Chicago, 1942; Anthony C. Cipolario, New York, 1942; W. E. Garrey, Nashville, Tenn., 1943; John S. Coulter, Chicago, 1943; Eben J. Carey, Milwaukee, 1944; Frank R. Ober, Boston, 1944; Frank D. Dickson, Kansas City, Mo., 1944; A. U. Desjardins, Rochester, Minn., 1945; H. B. Williams, New York, 1945; Frank H. Krusen, Rochester, Minn., 1945; Olin West, ex officio, Chicago; Morris Fishbein, ex officio, Chicago; Howard A. Carter, Secretary, Chicago.

COUNCIL ON FOODS AND NUTRITION (Standing Committee of Board of Trustees)—Philip C. Jeans, Iowa City, 1942; Mary Swartz Rose, New York, 1942; Lydia J. Roberts, Chicago, 1943; George R. Cowgill, New Haven, Conn., 1943; C. S. Ladd, Bismarck, N. D., 1944; Tom D. Spies, Cincinnati, 1944; Irvine McQuarrie, Minneapolis, 1945; Morris Fish-

bein, Chicago, 1945; R. M. Wilder, Rochester, Minn., 1946; Howard B. Lewis, Ann Arbor, Mich., 1946; J. S. Mc Lester, Chairman, Birmingham, Ala., 1946; Franklin C. Bing, Secretary, Chicago.

COUNCIL ON INDUSTRIAL HEALTH (Standing Committee of Board of Trustees)—Warren F. Draper, Washington, D. C., 1942; Henry H. Kessler, Newark, N. J., 1942; C. D. Selby, Detroit, 1942; Raymond Hussey, Baltimore, 1942; L. D. Bristol, New York, 1943; C. W. Roberts, Atlanta, Ga., 1943; Stanley J. Seeger, Chairman, Milwaukee, 1943; Philip Drinker, Boston, 1943; Harvey Bartle, Philadelphia, 1944; Leroy U. Gardner, Saranac Lake, N. Y., 1944; A. J. Lanza, New York, 1944; Robert T. Legge, Berkeley, Calif., 1944; C. M. Peterson, Secretary, Chicago.

COMMITTEE ON SCIENTIFIC EXHIBIT—Thomas S. Cullen, Chairman, Baltimore; Roger I. Lee, Boston; E. L. Henderson, Louisville, Ky.; Thomas G. Hull, Director, Chicago. Advisory Committee—D. Chester Brown, Danbury, Conn.; George Blumer, New Haven, Conn.; Paul J. Hanzlik, San Francisco; Ludwig Hektoen, Chicago; Urban Maes, New Orleans; Eben J. Carey, Milwaukee; James P. Leake, Washington, D. C.

BUREAU OF LEGAL MEDICINE AND LEGISLATION—J. W. Holloway Jr., Acting Director, Chicago.

BUREAU OF HEALTH EDUCATION—W. W. Bauer, Director, Chicago.

BUREAU OF INVESTIGATION—Paul C. Barton, Director, Chicago.

BUREAU OF MEDICAL ECONOMICS—R. G. Leland, Director, Chicago.

CHEMICAL LABORATORY—Paul Nicholas Leech, Director, Chicago.

LIBRARY—Marjorie Hutchins Moore, Librarian, Chicago.

* Deceased.

CLEVELAND—THE CONVENTION CITY

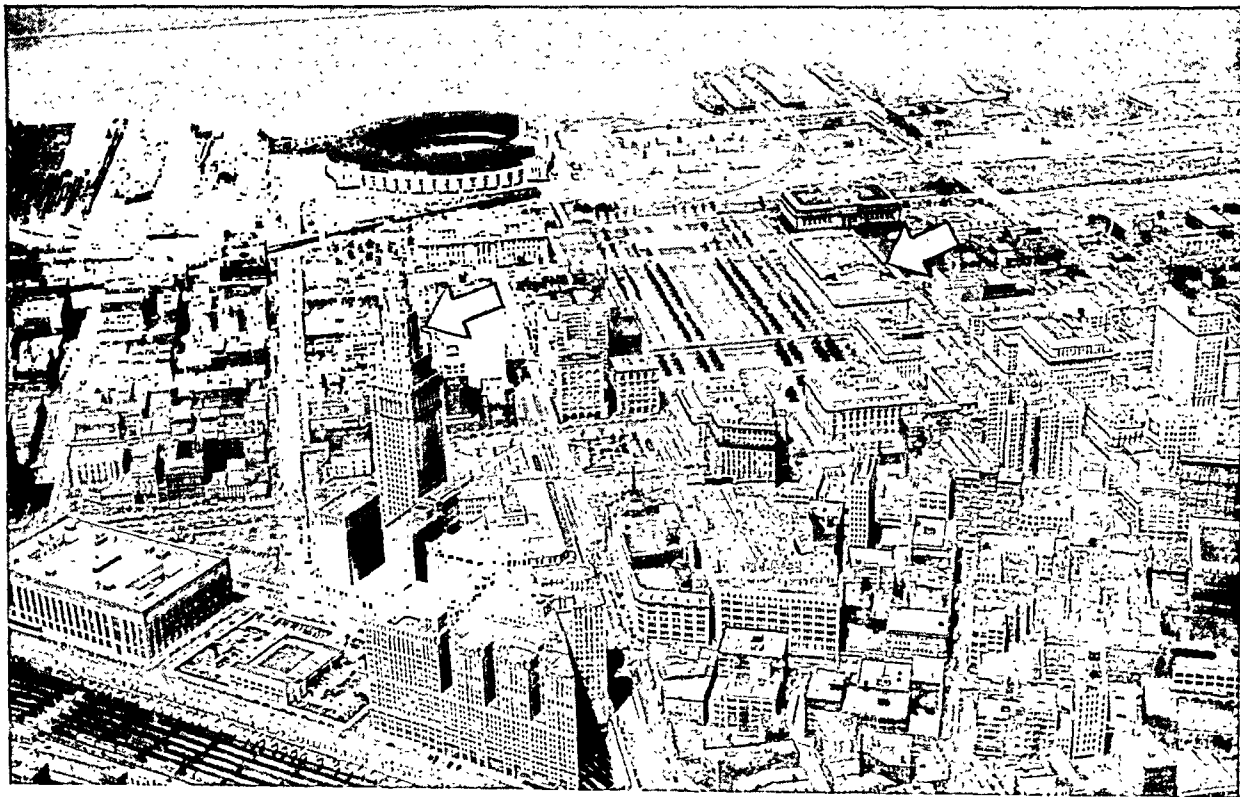
General Moses Cleveland founded the town of Cleveland at the mouth of the winding Cuyahoga River and laid out the Public Square in 1796. When the original colonies gave back to the government their claims to land in the western region, the government granted ownership to Connecticut to a tract of three million acres, which was called the Western Reserve. The Connecticut Land Company purchased the site of the Public Square in Cleveland for \$1.75. Today it is the hub of activities of the present great city, which, with the suburbs, has a population of 1,216,529. The Western Reserve region still has a New England atmosphere. Some of the smaller towns might on casual inspection be mistaken for New England villages. While this tradition gives a predominating note to the background of the city, recent studies show in the population a large proportion of foreign born or children of foreign born with a pronounced tendency toward Americanization. Many contributions to the cultural and industrial life of the city have been made by these citizens.

The opening of the Ohio Canal from Cleveland south to Portsmouth on the Ohio River was the factor which determined that Cleveland would be the important port rather than the settlements on other nearby rivers which flow into Lake Erie.

Youngstown—of the greatest importance in the defense program. Cleveland leads the world in the production of heavy machinery, bolts and screws, malleable castings, wire and nails. It is one of the nation's largest hardware centers. The Cleveland-Youngstown-Pittsburgh region has been called the "Ruhr of America," because of its production of steel, now raised to the highest level in history. Recently Cleveland has assumed special significance in the manufacture of airplane parts, machine tools and parts for automobiles and trucks. Its manufactures include also wire, electrical machinery, sewing machines, automotive bodies, paints, multigraph and addressograph office machinery, ready-made clothing, knit goods, brick and tile.

Cleveland's stores offer excellent shopping opportunities. One of its great stores sells more than fifty million dollars' worth of merchandise annually. Euclid Avenue is famous throughout the world as a shopping center. One of Cleveland's banks has more depositors than any other bank in any American city; indeed, in this community the branch banking system has reached its greatest development.

Cleveland has witnessed two of the greatest developments in recent years: the Mall and the mammoth Terminal Group of buildings. The Mall extends from the lake front into the heart



DOWNTOWN CLEVELAND WITH THE STADIUM AND LAKE ERIE IN THE BACKGROUND. THE LEFT ARROW POINTS TO THE TERMINAL BUILDING AND THE RIGHT ARROW TO THE PUBLIC AUDITORIUM, WHERE THE SESSIONS WILL BE HELD

Thus Cleveland became the lake outlet for agricultural and mineral products of the state of Ohio. Cleveland was the natural meeting point of iron ore from the Lake Superior region and coal from West Virginia, Pennsylvania and southern Ohio. Many large ore and coal companies still maintain their central offices in Cleveland.

Iron and steel have been Cleveland's premier industries since 1828, when the first smelter was established. The present capacity of millions of tons of pig iron annually make Cleveland and nearby ports and cities—Lorain, Sandusky, Ashtabula, Fairport and Conneaut, Akron, Canton, Niles, Warren and

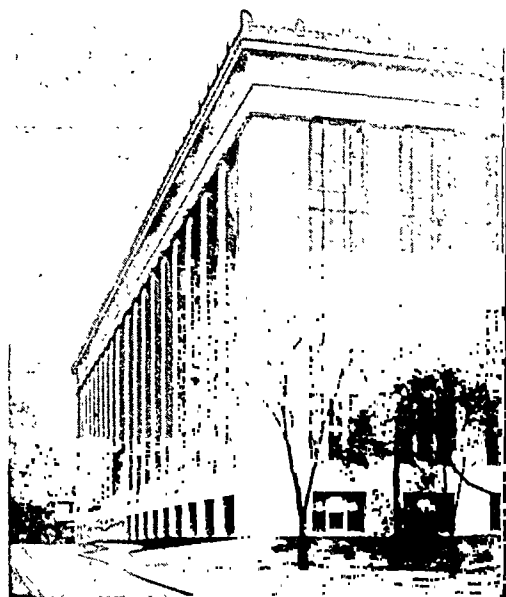
of the business district. On its nearly seventeen acres have been erected the Public Auditorium, where the annual session of the American Medical Association will be held, the City Hall, Cuyahoga County Court House, Public Library, Board of Education Building, Federal Building, and the Municipal Stadium along the lake.

The Cleveland Public Auditorium is perhaps the most complete municipal auditorium in the United States. The main auditorium seating twelve thousand five hundred and the Music Hall seating three thousand have a common stage before which sixteen thousand persons can be seated for a single event. The

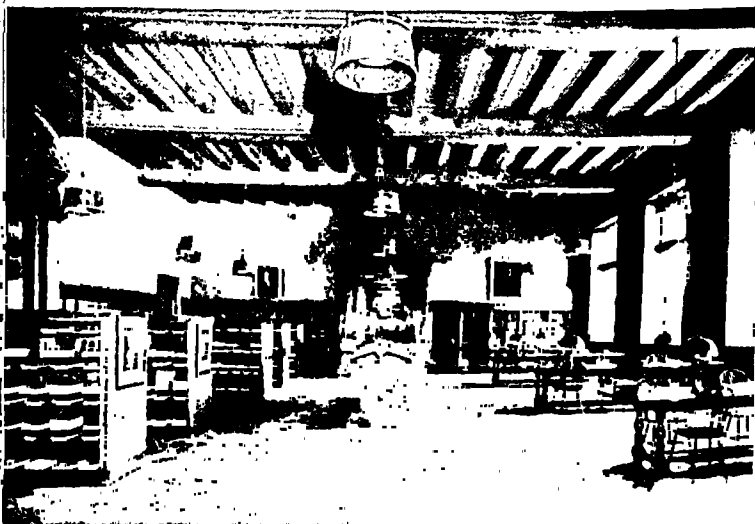
other halls in the building have seating capacities ranging from ninety to five hundred, while the Little Theater and the Ball Room will seat seven hundred and one thousand five hundred respectively. The Public Auditorium contains two hundred thousand square feet for exhibition purposes, and every modern exhibit facility. A municipal underground garage, communicating directly with the Public Hall and accommodating five hundred cars, will be open for the annual meeting. The hall is within easy walking distance of the principal hotels in the heart of the downtown district.

THE MEDICAL CENTER

Cleveland at one time had four medical schools. Two of them merged; the other two have ceased to exist. The School of Medicine of Western Reserve University is the center of medical Cleveland. It is located near the campus of Adelbert College of Western Reserve University. The physical plant of the medical school is a five story limestone building completed in 1924, the gift of the late Samuel Mather. Directly opposite the medical school are Babies' and Childrens' and Maternity Hospitals, while a few hundred yards north are the handsome buildings of the University Hospitals, all connected with one another and



WESTERN RESERVE UNIVERSITY SCHOOL OF MEDICINE



ALLEN MEMORIAL MEDICAL LIBRARY — CUSHING READING ROOM

with the medical school by tunnels. The University Hospital group includes Lakeside Hospital, the Hanna House private pavilion, the Pathological Institute and the School of Nursing. The four hundred bed Lakeside, the largest private hospital in Cleveland, is one of the foremost examples of hospital architecture and equipment in the country.

The beautiful home of the Cleveland Medical Library and the Cleveland Academy of Medicine is at the corner of Adelbert Road and Euclid Avenue. The building, the Dudley P. Allen Memorial, is owned by the library association, which has an endowment of almost \$400,000. Last year the medical library by actual count had fifty-eight thousand five hundred volumes, including the priceless Nicolas Pol collection of incunabula; it subscribed to two hundred and eighty-three American and British periodicals and to one hundred and eighty-seven in other languages. In this building also are a medical museum, seminar rooms, reading rooms, offices and an auditorium seating five hundred, while surrounding it are the various departments of Western Reserve University and the Case School of Applied Sciences. The Museum of Historical and Cultural Medicine contains four thousand objects of the medical history of Ohio, including, for example, two old pharmacies with counters, bottles and scales; old microscopes, utensils for infant feeding and many other collections. In the library building are study rooms which

are assigned to members for long continued work. Notable is the William Thomas Corlett study for dermatology and syphilology, the John Phillips study for internal medicine, and the Samuel Walter Kelley study for the surgical diseases of childhood. Directly across from the Allen memorial on Euclid Avenue is Severance Hall, home of the Cleveland orchestra, of which Artur Rodzinski is the conductor.

MUSEUM OF ART

Near the medical center is the Cleveland Museum of Art on East Boulevard north of Euclid Avenue, facing a lagoon and the Fine Arts Gardens. The Museum of Art is open to the public from 9 a. m. to 5 p. m. except on Monday; on Wednesday it is open until 10 p. m. and on Sundays from 1 to 6 p. m. Convention visitors will be admitted without charge. This museum has many fine collections, notably Italian primitives, Whistler etchings, the Bellows lithographs and lace, early American silver, medieval armor, and objects from the Guelph Treasure. Nearby is the Western Reserve Historical Society, occupying two magnificent adjoining residences, one the former home of Mrs. John Hay, the other of Mrs. Leonard C. Hanna. These are on East Boulevard facing Wade Park, a short distance north of Severance Hall and the Cleveland Museum of Art. The Library of the Western Reserve Historical Society contains two hundred thousand volumes on history and genealogy, and the largest collection of early newspapers in the United

States. The David Z. Norton Napoleon Bonaparte collection is regarded as the largest in this country. Here one will see, among many other objects, John Brown's desk. The library is open daily from 10 to 5 o'clock, except on Monday, when it is closed, and on Sunday, when it is open from 2 to 5 p. m.

A new institution is the Cleveland Health Museum, the first permanent public health museum on the western continent. The Health Museum is at Euclid Avenue at East Eighty-Ninth Street, about 1 mile west of the university group.

The Cleveland Museum of Natural History is located at 2712 Euclid Avenue on the outskirts of the business district. Here, among others, are exhibits of African big game collected by Dr. George W. Crile, the Jephtha Wade Game collection and the Johnstown mastodon. The museum is opened from 10 a. m. to 4 p. m. on week days. Admission is free.

The Dunham Tavern, at 6709 Euclid Avenue, is on the site of a log cabin built by Rufus and Jane Dunham, who were pioneers from New England. For years this tavern was on the stage coach road between Cleveland and Buffalo. Among its antiques is the old kitchen place with side oven and cradle. The tavern is open daily except Monday. The University district is about $3\frac{1}{2}$ miles east of Cleveland's Public Square and only a short distance from the uptown business district at Euclid Avenue and One Hundred and Fifth Street.

CLEVELAND HOSPITALS

North of the University district is Mount Sinai Hospital, Cleveland's third largest private hospital; nearby Rockefeller Park winds northward to Lake Erie. The Woman's Hospital is in this district, and half a mile westward is the Cleveland Clinic, organized by Dr. George W. Crile and his associates about seventeen years ago. Medical students receive clinical instruction in Lakeside and affiliated hospitals and in St. Vincent Charity and City Hospitals. St. Vincent Charity, formerly known as Charity Hospital, is one of Cleveland's pioneer institutions, the first patient, a Union soldier, having been admitted during the Civil War. This institution, on East Twenty-Second Street four blocks south of Euclid, has contributed much to the medical history of the community. St. Vincent Charity remains as the only hospital in downtown Cleveland, St. Luke's Lakeside, Huron Road and the U. S. Marine Hospitals having left the downtown section in recent years for more open spaces in outlying districts on the east side.

in Cleveland. In 1940, \$3,278,969.19 was subscribed to the Community Fund for the welfare activities of the community. The Welfare Federation supervises the budgeting and division of funds among the various agencies. The Hospital Council is a subsidiary organization which aids the participating hospitals in their common financial relations and in their mutual administrative problems.

St. Luke's Hospital, affiliated with the Methodist Episcopal Church, occupies a monumental modern plant on Shaker Boulevard in the southeastern part of the city. St. Luke's, with three hundred and ninety beds, is the second largest private hospital in Cleveland. St. Alexis Hospital, of two hundred and twenty bed capacity, in the steel mill district on the south side, is one of the oldest hospitals in the city. St. Alexis, St. John's, St. Ann's Maternity Hospital and Charity Hospital are the major Catholic hospitals of the community. The two hundred and seven bed hospital of St. John's is located on Detroit Avenue on the west side, while St. Ann's Maternity is on lower Woodland Avenue.

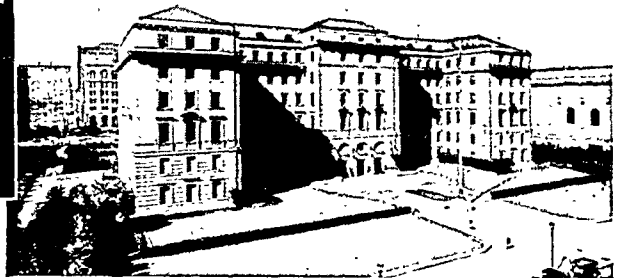
Education and Art



CLEVELAND MUSEUM OF ART



CLEVELAND PUBLIC LIBRARY



BOARD OF EDUCATION BUILDING

THE DEPARTMENT OF WELFARE

The Department of Welfare of the City of Cleveland comprises the department of health, the City Hospital, the City Correction Farm at Warrensville, and Sunny Acres Tuberculosis Sanitarium. Mr. Fred Ramsey is the present director of the Department of Welfare. The sixteen hundred bed City Hospital has general wards for medical, surgical, pediatric and dermatologic patients, a psychopathic division, contagious disease hospitals, pathologic laboratories, and the Lowman Pavilion for Tuberculous Patients. The tuberculosis and psychopathic divisions serve as clearing houses for acute cases within these specialties. After observation and study here many of the patients are then transferred to appropriate city, county or state institutions for further care.

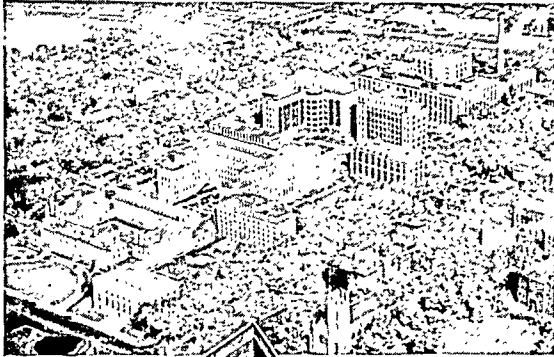
Cleveland's hospitals and welfare activities are coordinated by the Welfare Foundation, which has been faithfully administered for many years by public spirited citizens. The Community Fund idea found its inception and greatest development

The Lutheran and Fairview hospitals on the west side, Grace Hospital on the southwest, Evangelical-Deaconess in the section of the city called Brooklyn, and Glenville Hospital in the northeastern part of the city are among the other community fund hospitals. The one hundred and twenty-five bed Rainbow Hospital on South Euclid Avenue, affiliated with the University, is a convalescent hospital for chronic orthopedic and medical conditions in children. The Huron Road Hospital, which formerly was in the downtown section, has completed a new home in East Cleveland since the last meeting of the Association in this city, in 1934.

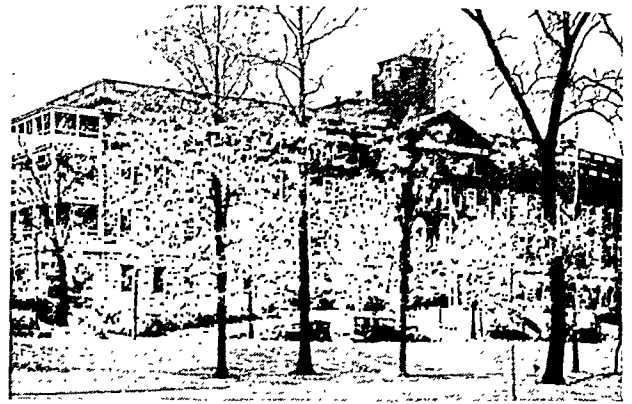
THE ACADEMY OF MEDICINE

The Cleveland Academy of Medicine, which is also the Cuyahoga County Medical Society, fulfils the functions implied in both titles and has its own headquarters in conjunction with the Cleveland Medical Library. The Academy of Medicine helps its members to improve the professional aspects of their calling and represents its members in their relation to

HOSPITALS



AIR VIEW — WESTERN RESERVE
UNIVERSITY HOSPITALS



MOUNT SINAI HOSPITAL



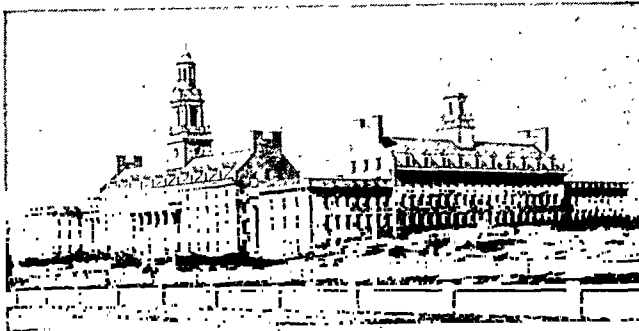
HURON ROAD HOSPITAL



CLEVELAND CLINIC HOSPITAL



LAKESIDE HOSPITAL



ST. LUKE'S HOSPITAL

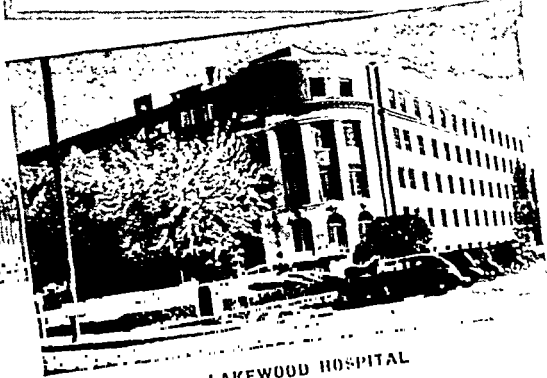


ST. JOHN'S HOSPITAL

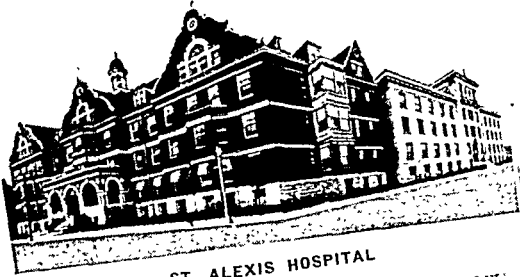
HOSPITALS



LUTHERAN HOSPITAL



LAKEWOOD HOSPITAL



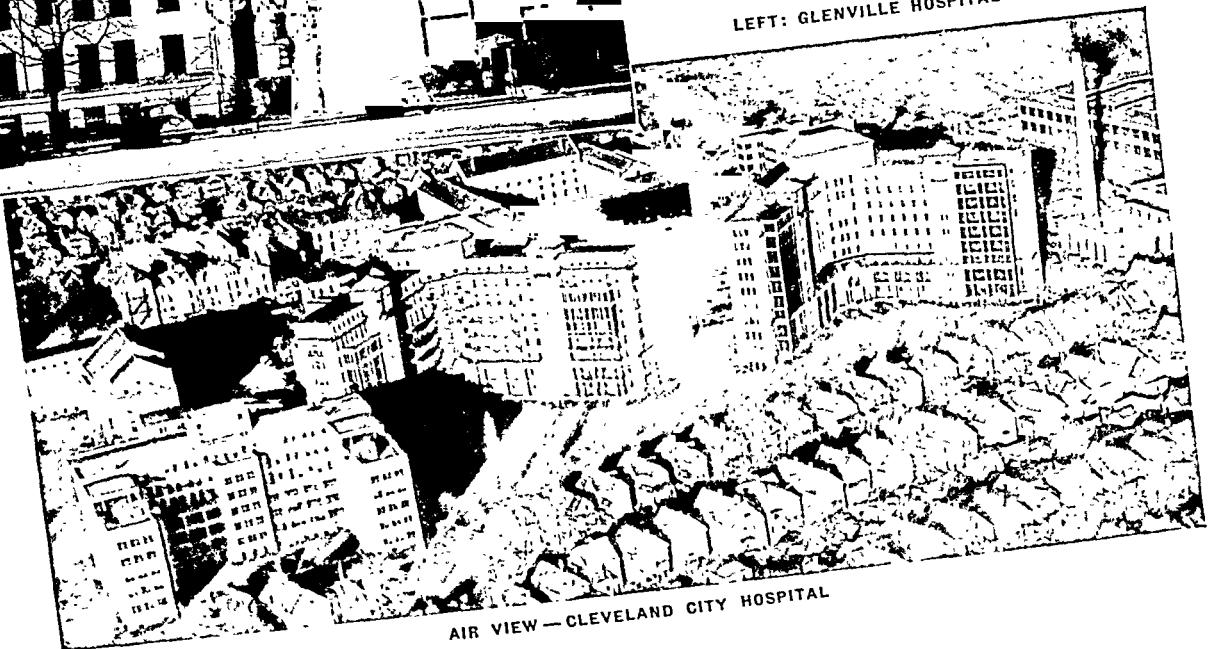
ST. ALEXIS HOSPITAL



ST. VINCENT CHARITY HOSPITAL



LEFT: GLENVILLE HOSPITAL



AIR VIEW — CLEVELAND CITY HOSPITAL

the public. Through its offices in this building the work of some forty committees is coordinated and a multitude of continuous contacts established with health agencies. Thus it is in a position to present the medical point of view when problems arise involving the public health or the profession. The scientific activities of the Academy of Medicine comprise monthly general meetings and periodic meetings of the various sections of the academy and one annual library meeting, totaling twenty-three. The committee on health education presents an ever enlarging program to the public through lectures and the radio. The committee's annual Sunday afternoon health lectures during the past ten years have become an important part of Cleveland's public educational program. The Academy's medical preparedness committee has coordinated the local

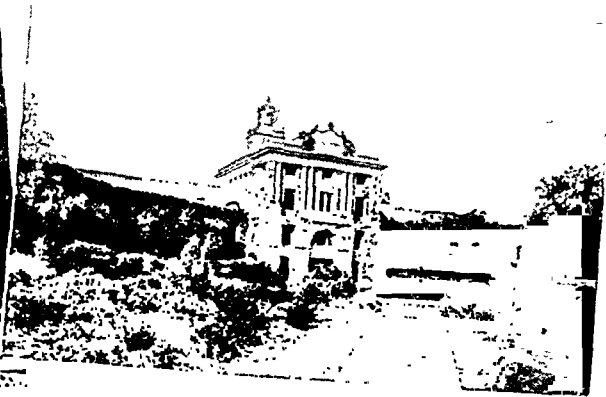
along which instructive hikes are conducted under the auspices of the Cleveland Museum of Natural History. The suburbs of Cleveland, especially Lakewood, Cleveland Heights, Shaker Heights and Bratnahl, are notable as attractive residential districts.

GARDENS

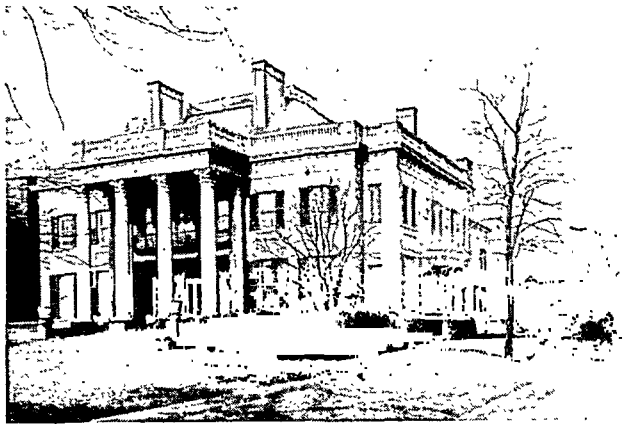
The Cultural Gardens, on East Boulevard near Superior Avenue, are maintained under the auspices of different racial groups. The different gardens symbolize the contributions of foreign groups to the cosmopolitan life of the city. Here are the Shakespeare, the German, Italian, Hebrew and other gardens. The Fine Arts Garden in front of the Cleveland Museum of Art, around the lagoon in Wade Park, is of especial beauty with its statuary and fountains. In the country to the east is



MEDICINAL PLANT GARDEN OF
WESTERN RESERVE UNIVERSITY



NELA PARK



MUSEUM OF NATURAL HISTORY



CLEVELAND HEALTH MUSEUM

medical contributions to the preparedness activities, and the Committee on Economics is now completing its study of plans of medical care for Cuyahoga County. The Academy of Medicine has a twenty-four hour information service which not only locates academy members for their patients but acts also as an officially recognized information bureau on medical subjects for the community. The executive office of the Academy is also the local headquarters for the medical section of the Red Cross Disaster Relief.

CLEVELAND PARKS

The Cleveland area has two park systems, an inner one, forming an incomplete circle, located chiefly in the city proper, and an outer park system, called the Metropolitan, in the country. In the latter are camp grounds, trails and many drives

a medicinal plant garden, the Squire Valleeve Farm, which is connected with the School of Pharmacy of Western Reserve University; here is produced all the digitalis used in the University Hospitals.

HISTORICAL PLACES

Along the motor roads leading to Cleveland are many historical places. The former home of President James A. Garfield at Mentor is open to the public, and at Kirtland, not far away, is the first temple erected by the Mormons before they moved westward. A memorial to Commodore Oliver H. Perry, who defeated the British fleet in the War of 1812, may be visited at Put-in-Bay, near Sandusky. Among other places of interest nearby is Johnson's Island, which was a prison for Confederate officers during the Civil War. This district is an

important fishing center and is in the heart of a thriving wine industry.

At Milan, near Sandusky, is the cottage in which Thomas Edison was born, and at Fremont, nearby, is the estate to which President Rutherford Hayes retired after leaving the White

House. To the west is Oberlin with its famous college, and south of Cleveland is Hudson, which still looks like a New England village. Here was once the home of John Brown and also of Western Reserve University, but now it has the lovely campus of Western Reserve Academy.

REGISTRATION

The Bureau of Registration will be located on the lower level of the Cleveland Public Auditorium, Lakeside Avenue at East Sixth Street. Members of the Subcommittee on Registration of the Local Committee on Arrangements will be on hand to assist those who desire to register. A branch postoffice in charge of government postoffice officials will be available for visitors, and an information bureau will be operated in connection with the Bureau of Registration.

Who May Register

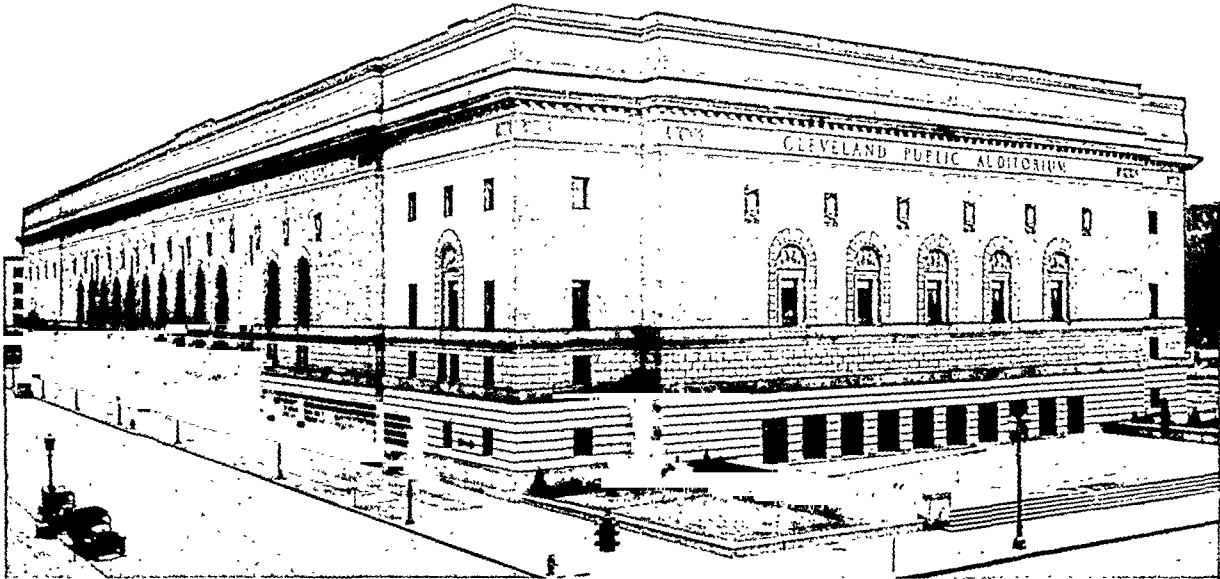
Only Fellows, Affiliate, Associate and Honorary Fellows, and Invited Guests may register and take part in the work of the sections. Fellows of the Scientific Assembly are those who

Those subscribers to THE JOURNAL who have not received pocket cards for 1941 should write to the American Medical Association in order to obtain application blanks and information as to further requirements.

Register Early

Fellows living in Cleveland, as well as all other Fellows who are in Cleveland on Monday and Tuesday, should register as early as possible.

The names and local addresses of those who register will be included in the issue of the *Daily Bulletin* appearing the next day, and this will enable visiting physicians to find friends who have registered.



PUBLIC AUDITORIUM WHERE THE SESSIONS WILL BE HELD

have, on the prescribed form, applied for Fellowship, subscribed to THE JOURNAL and paid their Fellowship dues for the current year. Fellowship dues and subscription to THE JOURNAL are included in the one annual payment of eight dollars, which is the regular subscription price of THE JOURNAL. Fellowship cards are sent to all Fellows after payment of annual dues, and these cards should be presented at the registration window. Any who have not received cards for 1941 should secure them at once by writing to the American Medical Association, 535 North Dearborn Street, Chicago.

Members in Good Standing Eligible to Apply for Fellowship in the Association

Members in good standing in the American Medical Association are those members of component county medical societies and of constituent state and territorial medical associations whose names are officially reported for enrolment to the Secretary of the American Medical Association by the secretaries of the constituent medical associations. All members in good standing may apply for Fellowship in the Scientific Assembly and are urged to qualify as Fellows before leaving home in order that pocket cards may be secured and brought to Cleveland so that registration can be more easily and more promptly effected.

Application forms may be had on request.

Suggestions That Will Facilitate Registration

Fellows should fill out completely the spaces on both sections of the front of the *white* registration card, which will be found on the tables in front of the Registration Bureau.

Physicians who desire to qualify as Fellows should fill out completely the spaces on both sections of the front of the *blue* registration card and sign the application on the back. These cards will be found on the tables.

Entries on the registration card should be written plainly, or printed, as the cards are given to the printer to use as "copy" for the *Daily Bulletin*, published on Tuesday, Wednesday, Thursday and Friday of the week of the session.

Fellows who have their pocket cards with them can be registered with little or no delay. They should present the filled out *white* registration card, together with the pocket card, at one of the windows marked "Registration by Pocket Card." There the clerk will compare the two cards, stamp the pocket card and return it and supply the Fellow with a badge, a copy of the official program and other printed matter of interest to those attending the annual session.

As previously stated, it will assist in registering if those who desire to qualify as Fellows will file their applications and qualify as Fellows by writing directly to the American Medical Association, 535 North Dearborn Street, Chicago, so that their Fellowship may be entered not later than May 5. Any applications that are received later than May 5 will be given prompt

attention, but the Fellowship pocket card may not reach the applicant in time for him to register at the Cleveland session.

It will be possible for members of the organization to qualify as Fellows at Cleveland. In order to do this, applicants for Fellowship will be required to fill out both sections of the front of the *blue* registration card and to sign the formal application that is printed on the reverse side of the card. It is suggested that those members who apply for Fellowship at

Cleveland bring with them their state membership cards for the year 1941. The state membership card should be presented along with the filled in *blue* registration card at the window in the booth marked "Applicants for Fellowship and Invited Guests."

As already stated, registration can be effected more easily and more promptly if members will qualify as Fellows before leaving home.

TRANSPORTATION

Registration for General Officers and Delegates at Hotel Statler

General Officers of the American Medical Association and members of the House of Delegates may register for the Scientific Assembly in the Pine Room, adjacent to the Euclid Ball Room of the Hotel Statler. This arrangement is made for the convenience of the members of the House of Delegates, which will convene on Monday morning at 10 o'clock in the Euclid Ball Room of the Hotel Statler. Delegates are requested to register for the Scientific Assembly before presenting credentials to the Reference Committee on Credentials of the House of Delegates. Registration of delegates for the Scientific Assembly will begin at 8 o'clock, Monday morning, June 2, and delegates are urged to register early so that all members of the House of Delegates may be seated in time for the opening session of the House.

Railroad Rates to Cleveland

Because of the reduction in one way fares effective June 1, 1936, the use of convention fares has been discontinued in the territories of railway passenger associations.

In the territory of the Central Passenger Association and in that of the Trunk Line Association, the fares vary for travel in sleeping or parlor cars and in coaches. The suggestion is offered that members of the Association traveling to Cleveland from the territories of the Central Passenger and Trunk Line associations consult their ticket agents a week or so in advance of the time at which they expect to start to Cleveland for the exact rates that will be in effect then, not only for individuals but also for parties that may be traveling together.

In the territory of the Southern Passenger Association, daily round trip fares are in effect to Cleveland on the

a limit of thirty days in addition to the date of sale. Local ticket agents will be able to furnish more complete information at the time tickets are purchased.

In the territory of the Southwestern Passenger Association, daily round trip fares are in effect to Cleveland on the basis of fare and one half or $2\frac{3}{4}$ cents a mile in each direction to its gateways added to the reduced fares of Southern Passenger and Central Passenger Associations, tickets at these fares generally offering limit of sixty days in addition to date of sale, although

in some cases lower fares are available with thirty day limit, and six month limit tickets may also be obtained at slightly higher fares, the usual charges being made for space occupied in sleeping and parlor cars. Lower fares are available to those desiring to travel in coaches. The suggestion is offered that members of the Association traveling from points in the territory of the Southwestern Passenger Association consult their local ticket agents for details of arrangements that apply from starting points.

In the territory of the Trans-Continental and Western Passenger associations low round trip fares will be in effect daily for travel in sleeping and parlor cars on the payment of the usual charges for the space which is occupied.

In a part of these territories low intermediate class fares, good for transportation in tourist sleeping cars, will also be available on the payment of charges for the space occupied.

In the territory of the Canadian Passenger Association, in addition to one way



CLEVELAND PUBLIC SQUARE SHOWING THE TERMINAL BUILDING TOWER
THE HOTEL CLEVELAND IS ON THE RIGHT

basis of $2\frac{1}{2}$ cents a mile in each direction to the gateways of its territory, plus double the one way first class fares therefrom, tickets being honored in sleeping or parlor cars on payment of charges for space occupied. Moreover, reduced fares are in effect on a slightly lower basis from all points in the Southern Passenger Association territory to Cleveland for tickets which are good for transportation in upper berths only and which bear

tickets, round trip tickets may be purchased which are computed on the basis of a rate 10 per cent less than double the rate for one way fares, which bear a limit of six months from the date of sale and which are available for stop over privileges. Moreover, summer or other reduced fares are in effect during certain parts of the year, details of which are available on application to any railway agent.

For information regarding specific fares and the most advantageous arrangements from starting points, all members who expect to attend the annual session in Cleveland are urged to consult their local ticket agents.

The New York Central System, the Nickel Plate and the Baltimore and Ohio railway systems use the new Union Terminal on the Public Square in the center of the business district, while the Pennsylvania uses the old Union Depot on the lake front at West Ninth Street and a station located at East Fifty-Fifth Street and Euclid Avenue. The Erie station is below the Superior Avenue High Level bridge at the foot of a ramp leading from Superior Avenue.

Air Travel

By air, Cleveland is just a few hours from most of the important cities in the United States. Sleeper accommodations are available on overnight journeys on most of the transcontinental services. Your nearest Airline Ticket Office, Travel Bureau or Hotel Transportation Desk will gladly arrange your itinerary. The American, Pennsylvania, Central and United lines have daily service to and from Cleveland. The airport in Cleveland is located southwest of the city and may be reached by taxicab or bus.

The Cleveland Municipal Airport is one of the largest and finest in the country. For several years it was the scene of the National Air Races. More than one hundred planes of the American, Pennsylvania, Central and United lines land and take off from this airport daily, the total number of passengers

during the year 1940 reaching more than three hundred thousand.

Boat Travel

The Detroit and Cleveland Navigation Company utilizes the docks at the foot of East Ninth Street, landing passengers from Detroit in the morning and departing for Detroit about midnight.

Bus Travel

The Greyhound, the Blue-Ridge Greyhound and the Penn-Ohio Coach lines use the bus station located at Superior Avenue and East Ninth Street.

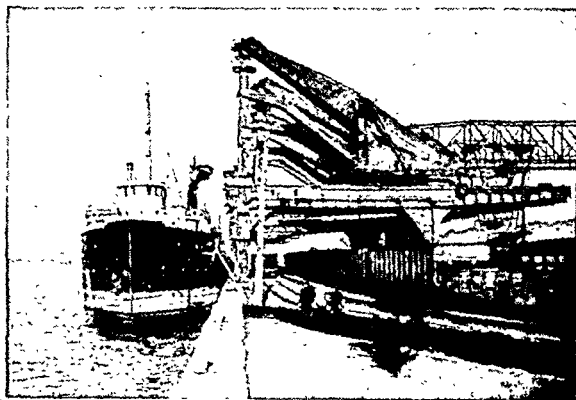
Local Transportation

Local transportation is by means of surface street cars and buses operated by the street railway company and a rapid transit line running from the Union Terminal by private right-of-way which gives remarkably quick transportation to the Shaker Heights district, the running time between the Terminal and Shaker Square being only thirteen minutes.

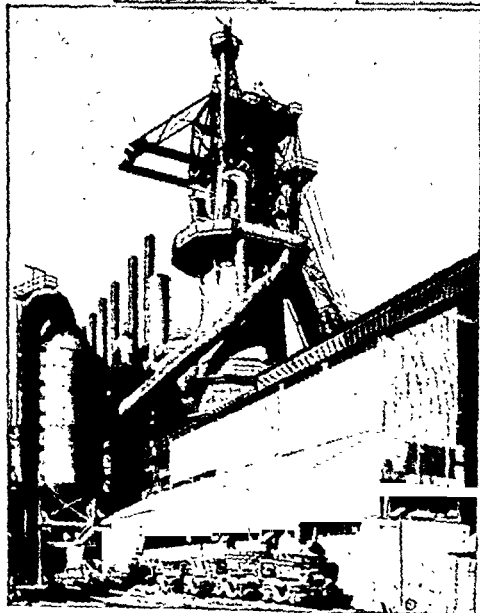
Taxicab transportation in Cleveland is relatively cheap, the fare from any of the leading downtown hotels to the Cleveland Public Auditorium ranging from 20 to 35 cents, and from any of the leading downtown hotels to the Allen Memorial Medical Library or the Art Museum, about 90 cents. The rates are the same when the cabs are used by four, three or two passengers as for a single passenger. Sight seeing trips may be arranged through the taxicab companies.

SCENES IN INDUSTRIAL CLEVELAND

COAL WHARF



MACHINE TOOL PLANT



BLAST FURNACE



THE LARGEST STRIP MILL IN THE WORLD

CLEVELAND HOTELS

A list of Cleveland hotels is presented for the benefit of those who expect to attend the annual session of the American Medical Association, June 2-6. Dr. Edward F. Kieger is chairman of the Subcommittee on Hotels of the Local Committee on Arrangements and may be addressed at 1604 Terminal Tower, Cleveland, Ohio. The advertising announcement and a coupon

to be used for making reservations appear on advertising page 104 of this issue.

Since reservations are cleared through the subcommittee on hotels, it will greatly expedite matters if requests for reservations are addressed directly to Dr. Kieger, who, as stated, may be reached at 1604 Terminal Tower, Cleveland, Ohio.

Schedule of Rates

Hotels	For 1 Person	For 2 Persons		Suites
		Double Bed	Twin Beds	
ALCAZAR Surrey at Derbyshire Rd....	\$3.00	\$5.00	\$5.00	\$10.00-\$15.00
ALLERTON Chester at E. 13th St.....	2.50-3.00	4.25-4.50		10.00
AUDITORIUM St. Clair at E. 6th St.....	2.00-4.00	4.00-5.50	5.00-7.00	
BELMONT 3844 Euclid Ave.....	1.75-3.50	3.00-5.00	4.00-6.00	8.00-10.00
BOLTON SQUARE Carnegie at E. 89th St.....	2.50-3.00	3.50-4.00	4.00-5.00	8.00-12.00
CARTER Prospect at E. 9th St.....	2.75-5.00	4.00-7.00	5.00-9.00	12.00
CLEVELAND Public Square.....	3.00-6.00	4.50-6.50	6.00-10.00	21.00-30.00
COLONIAL Prospect at E. 6th St.....	2.50-4.00	4.00-6.00	5.00-7.00	
DEVON HALL 1598 Ansel Rd.....	2.00-3.00	3.00	3.00	
DOANBROOKE 1924 E. 105th St.....	2.50	4.00	4.50	
FENWAY HALL Euclid at E. 107th St.....	3.00-5.00	4.50-7.50	5.00-10.00	6.50-12.00
FERN HALL 3250 Euclid Ave.....	1.50-2.50	2.50-3.00	4.00-5.00	
GILSY 1511 E. 9th St.....	2.00-4.00	3.00-5.00	4.00-8.00	
HOLLANDEN Superior at E. 6th St.....	3.00-8.00	4.50-10.00	5.00-12.00	12.00-16.00
LAKE SHORE 12506 Edgewater Dr.....	3.50	6.00	6.00-8.00	8.00-12.00
MILNER 1602 E. 9th St.....	1.50-2.50	2.00	2.00	
NEW AMSTERDAM Euclid at E. 22d St.....	2.00-3.50	3.50-4.50	4.50-6.00	
OLMSTED Superior at E. 9th St.....	2.00-4.00	3.50-5.00	5.00-6.00	20.00
PARK LANE VILLA 10310 Park Lane.....	3.00	4.00-5.00	6.00	10.00
QUAD HALL (MEN ONLY) 7500 Euclid Ave.....	2.50		4.00	
ST. REGIS Euclid at E. 82d St.....	2.00-3.50	3.00-4.50	3.50-4.50	
SOVEREIGN E. Blvd. & E. 103th St.....	3.00-4.00	5.00-6.00	6.00-7.00	10.00
STATLER Euclid at E. 12th St.....	3.00-6.00	4.50-8.00	5.00-8.00	10.00-23.00 (2-4 persons)
STERLING Prospect at E. 30th St.....	2.00-3.50	3.00-5.00	4.00-6.00	8.00-10.00
STOCKBRIDGE 3328 Euclid Ave.....	2.00	3.00	4.00	
TUDOR ARMS 19000 Carnegie Ave.....	3.00-6.00		6.00-10.00	
WADE PARK MANOR Park Lane at E. 107th St...	3.00-4.00	5.00-6.00	7.00-10.00	10.00-16.00
WESTLAKE Blount Rd., Rocky River...	2.50-3.00	4.00-5.00	6.00	12.00

MEETING PLACES

HOUSE OF DELEGATES: Euclid Ball Room, Hotel Statler, Euclid Avenue at East Twelfth Street.

OPENING GENERAL MEETING: Music Hall, Arena Floor, Cleveland Public Auditorium.

GENERAL SCIENTIFIC MEETINGS: Music Hall, Arena Floor, Cleveland Public Auditorium.

GENERAL HEADQUARTERS, SCIENTIFIC EXHIBIT, REGISTRATION BUREAU, TECHNICAL EXHIBITS, INFORMATION BUREAU AND BRANCH POSTOFFICE: Cleveland Public Auditorium.

SECTIONS OF SCIENTIFIC ASSEMBLY

PRACTICE OF MEDICINE: Ball Room, Fourth Floor, Cleveland Public Auditorium.

SURGERY, GENERAL AND ABDOMINAL: Music Hall, Arena Floor, Cleveland Public Auditorium.

OBSTETRICS AND GYNECOLOGY: Music Hall, Arena Floor, Cleveland Public Auditorium.

OPHTHALMOLOGY: Ball Room of Hotel Hollenden, Superior at East Sixth Street.

LARYNGOLOGY, OTOTOLOGY AND RHINOLOGY: Ball Room of Hotel Hollenden, Superior at East Sixth Street.

PEDIATRICS: Ball Room, Fourth Floor, Cleveland Public Auditorium.

PHARMACOLOGY AND THERAPEUTICS: Club Room B, Third Floor, Cleveland Public Auditorium.

PATHOLOGY AND PHYSIOLOGY: Club Room B, Third Floor, Cleveland Public Auditorium.

NERVOUS AND MENTAL DISEASES: Little Theatre, Arena Floor, Cleveland Public Auditorium.

DERMATOLOGY AND SYPHILOLOGY: South Hall C, Fourth Floor, Cleveland Public Auditorium.

PREVENTIVE AND INDUSTRIAL MEDICINE AND PUBLIC HEALTH: South Hall A, Second Floor, Cleveland Public Auditorium.

UROLOGY: South Hall C, Fourth Floor, Cleveland Public Auditorium.

ORTHOPEDIC SURGERY: Little Theatre, Arena Floor, Cleveland Public Auditorium.

GASTRO-ENTEROLOGY AND PROCTOLOGY: South Hall A, Second Floor, Cleveland Public Auditorium.

RADIOLOGY: South Hall B, Third Floor, Cleveland Public Auditorium.

ANESTHESIOLOGY: South Hall B, Third Floor, Cleveland Public Auditorium.

The Cleveland Public Auditorium is located on Lakeside Avenue at East Sixth Street.

SYMPOSIUM ON HEALTH PROBLEMS IN EDUCATION

A fifth Symposium on Health Problems in Education, under the sponsorship of the Joint Committee on Health Problems in Education of the National Education Association and the American Medical Association, together with the Section on Ophthalmology, the Section on Laryngology, Otology and Rhinology, the Section on Pediatrics and the Section on Preventive and Industrial Medicine and Public Health of the American Medical Association, will be held in the Ball Room, Fourth Floor, Cleveland Public Auditorium.

The following is the program which will be presented. The presiding officers will be JULIUS H. HESS, Chicago, and C. D. SELBY, Detroit.

Symposium on School Environment in Relation to Health

Introductory Statement.

CHARLES C. WILSON, Hartford, Conn., Chairman.
Location, Construction, Equipment and Operation of the School Plant. T. C. HOLY, Columbus, Ohio.

Health Aspects of Curricular and Extracurricular School Schedules. CHARLES H. KEENE, Buffalo.

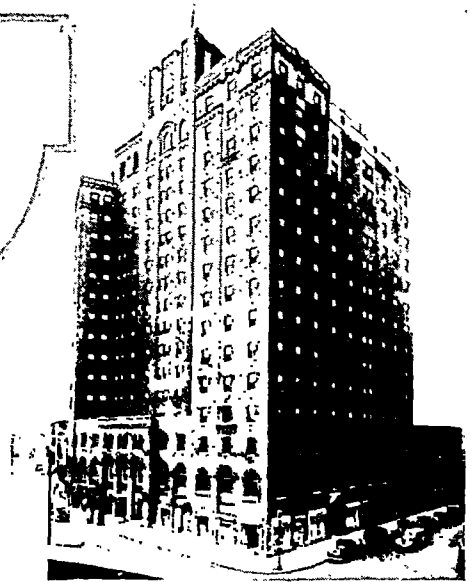
Health Practices in the School in Relation to Health Instruction. H. R. CASPARIS, Nashville, Tenn.

Discussion to be opened by Rt. Rev. MGR. JOHN R. HAGAN and PHILIP RILEY, Cleveland.

HOTELS



HOTEL STATLER



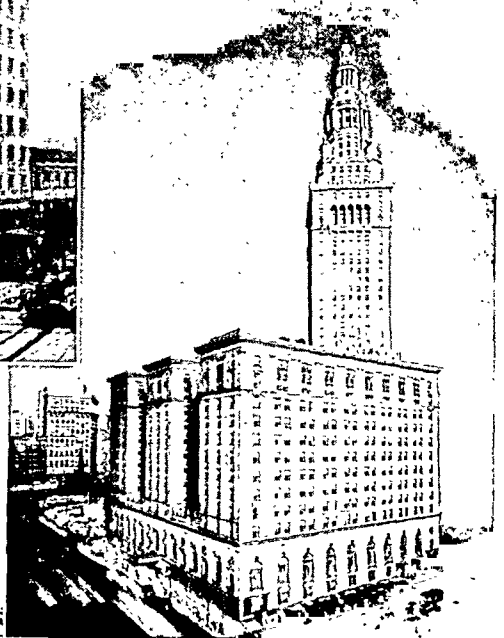
ALLERTON HOTEL



AUDITORIUM HOTEL



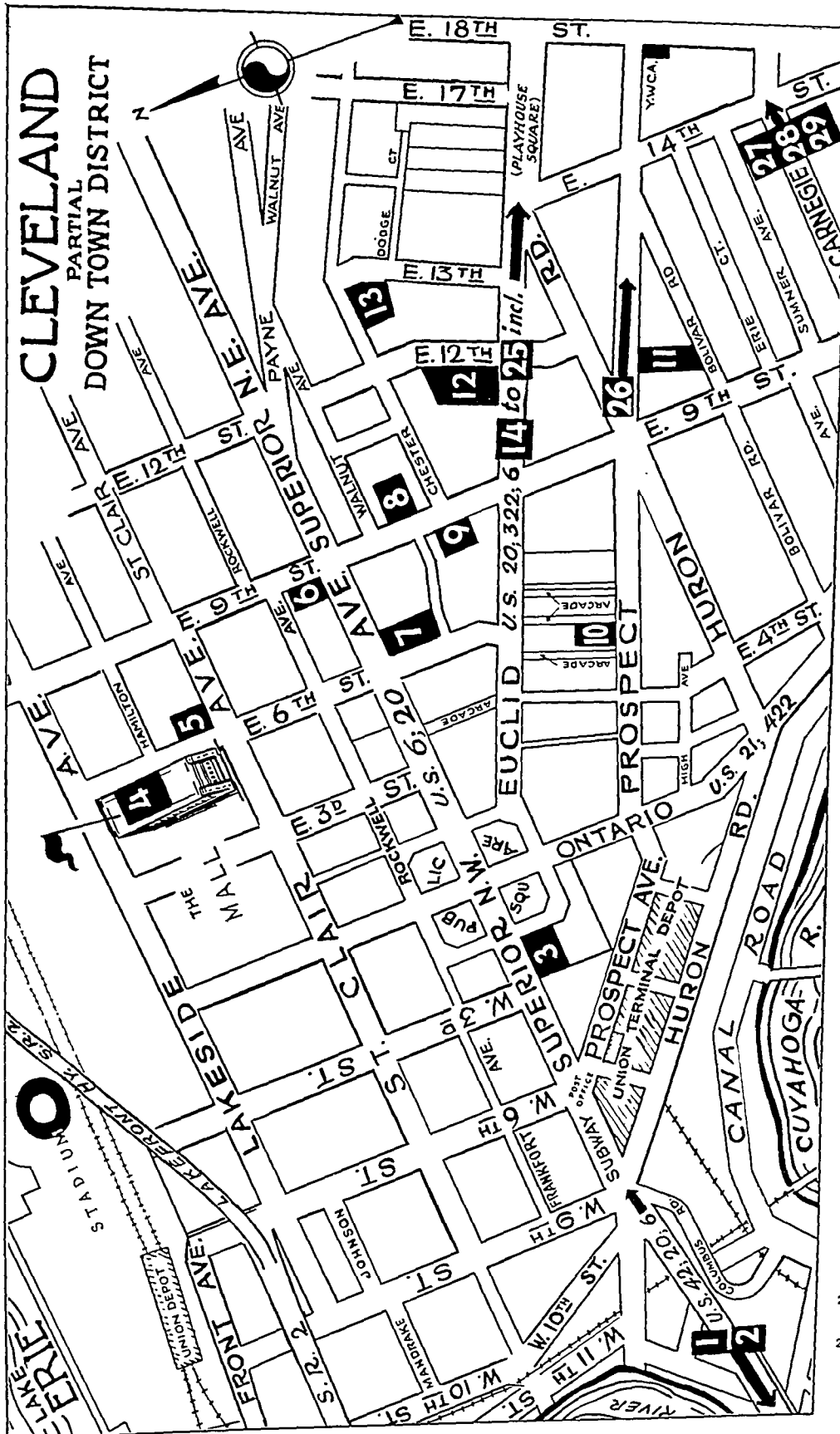
THE OLMSTED HOTEL



HOTEL HOLLENDEN

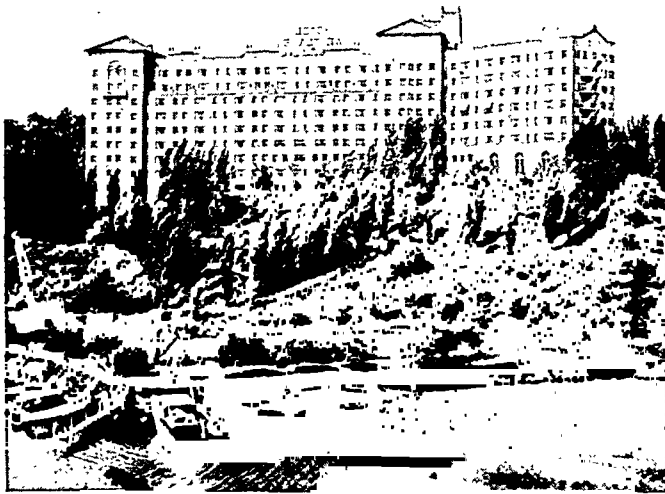


HOTEL CLEVELAND AND BALLROOM



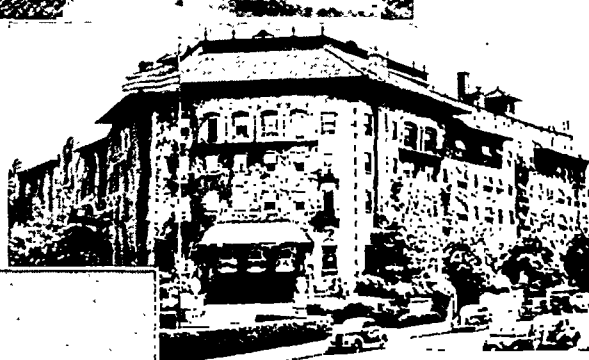
KEY TO MAP

- 29. Alcazar
- 13. Allerton
- 5. Auditorium
- 17. Belmont
- 27. Bolton Square
- 11. Carter
- 3. Cleveland
- 4. Cleveland Public Auditorium
- 10. Colonial
- 20. Devon Hall
- 25. Doanbrooke
- 21. Fenway Hall
- 15. Fern Hall
- 8. Gillisy
- 7. Hollenden
- 1. Lake Shore
- 9. Milner
- 14. New Amsterdam
- 6. Olmsted
- 22. Park Lane Villa
- 18. Quad Hall
- 19. St. Regis
- 23. Sovereign
- 12. Statler
- 26. Sterling
- 16. Stockbridge
- 28. Tudor Arms
- 24. Wade Park Manor
- 2. Westlake



WESTLAKE HOTEL

HOTELS



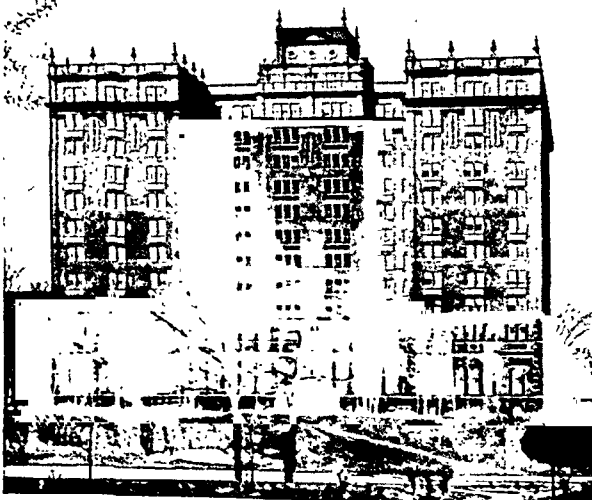
Above,
ALCAZAR HOTEL

Left,
TUDOR ARMS HOTEL

Right,
LAKE SHORE HOTEL



FENWAY HALL



WADE PARK MANOR



CARTER HOTEL

LOCAL COMMITTEE ON ARRANGEMENTS

CLYDE L. CUMMER, Chairman

HARRY V. PARYZEK, Vice Chairman

TORALD SOLLMANN, Chairman, Honorary Committee

Subcommittees

Subcommittee on Sections and Section Work: C. T. Way, Chairman.

Practice of Medicine: Joseph M. Hayman Jr., Chairman.

Surgery, General and Abdominal: Harry G. Sloan, Chairman.

Obstetrics and Gynecology: James L. Reycraft, Chairman.

Ophthalmology: Albert D. Ruedemann, Chairman.

Laryngology, Otology and Rhinology: Harry C. Rosenberger, Chairman.

Pediatrics: Charles W. Burhans, Chairman.

Pharmacology and Therapeutics: Russell L. Haden, Chairman.

Pathology and Physiology: Rafael Dominguez, Chairman.

Nervous and Mental Diseases: Louis J. Karnosh, Chairman.

Dermatology and Syphilology: Charles G. LaRocco, Chairman.

Preventive and Industrial Medicine and Public Health: Harold J. Knapp, Chairman.

Urology: Herbert B. Wright, Chairman.

Orthopedic Surgery: Clarence H. Heyman, Chairman.

Gastro-Enterology and Proctology: Fred C. Oldenburg, Chairman.

Radiology: Lawrence A. Pomeroy, Chairman.

Anesthesiology: B. B. Sankey, Chairman.

Subcommittee on Registration: M. Paul Motto, Chairman.

Subcommittee on Scientific Exhibit: Robert M. Stecher, Chairman.

Subcommittee on Information: A. Carlton Ernestene, Chairman.

Subcommittee on Hotels and Housing: Edward F. Kieger, Chairman.

Subcommittee on Publicity: Howard Dittrick, Chairman.

Subcommittee General Scientific Meetings: Russell L. Haden, Chairman.

Subcommittee on Finance: A. Carlton Ernestene, Chairman.

Subcommittee on Entertainment:

Opening General Meeting: Ralph M. Watkins, Chairman.

President's Reception and Ball: B. B. Larsen, Chairman.

Dinner for Delegates: Harry D. Piercy, Chairman.

Alumni and Fraternity Reunions: Hiram O. Studley, Chairman.

Subcommittee on Golf: John B. Morgan, Chairman.

Subcommittee on Women Physicians: Ruth A. Robishaw, Chairman.

Subcommittee on Woman's Auxiliary: Mrs. Fred C. Oldenburg, Chairman

CLYDE L. CUMMER, M.D., CHAIRMAN OF
THE LOCAL COMMITTEE ON ARRANGEMENTS

ENTERTAINMENT

Dinner for Delegates

A dinner is being arranged for Monday, June 2, at 7 p. m., at the Mid-Day Club, for members of the House of Delegates and officers of the American Medical Association. Complete information concerning the dinner and entertainment will be available at the first meeting of the House of Delegates on Monday morning, June 2.

Luncheon for Delegates

A luncheon for the members of the House of Delegates and the officers of the American Medical Association is being planned for Tuesday noon, June 3, between the morning and afternoon sessions of the House of Delegates at the Hotel Statler.

Opening General Meeting

The Opening General Meeting will be held on Tuesday evening, June 3, in Music Hall, Arena Floor, Cleveland Public Auditorium. The program will begin at 8 o'clock.

President's Reception and Ball

The President of the American Medical Association will be honored with a reception and ball to be held Thursday evening, June 5, at 9 o'clock in the Ball Room, Entire Mezzanine Floor and Red Room of the Hotel Cleveland.

Alumni and Fraternity Reunions

Notice has been received of the following alumni and fraternity dinners and luncheons to be held during the time of the session:

ALPHA EPSILON IOTA, Luncheon, Wednesday, June 4, Hotel Hollenden.

ALPHA KAPPA KAPPA MEDICAL FRATERNITY, Luncheon, Wednesday, June 4, Hotel Hollenden.

ALPHA MU PI OMEGA, Luncheon, Wednesday, June 4, 1 p. m., Room 34, Hotel Cleveland.

ALPHA OMEGA ALPHA HONORARY MEDICAL FRATERNITY, Dinner, Thursday, June 5, Empire Room, Hotel Cleveland.

ALUMNI ASSOCIATION OF THE SCHOOL OF MEDICINE OF WASHINGTON UNIVERSITY, Luncheon, Wednesday, June 4, Hotel Statler.

ALUMNI ASSOCIATION OF THE UNIVERSITY OF LOUISVILLE, Dinner, Wednesday, June 4, 6:30 p. m., Room 1, Hotel Cleveland.

ALUMNI ASSOCIATION OF THE UNIVERSITY OF MINNESOTA, Cocktail Party, Wednesday, June 4, 5 p. m., Room 26, Hotel Cleveland.

ALUMNI OF CREIGHTON UNIVERSITY, Dinner, Wednesday, June 4, Red Room, Hotel Cleveland.

ALUMNI OF THE COLLEGE OF PHYSICIANS AND SURGEONS OF COLUMBIA UNIVERSITY, Dinner, Wednesday, June 4, 7 p. m., Hotel Statler.

ALUMNI OF THE UNIVERSITY OF ILLINOIS, COLLEGE OF MEDICINE, Luncheon, Wednesday, June 4, Cleveland Athletic Club.

AMERICAN BOARD OF ANESTHESIOLOGY, Dinner, Wednesday, June 4, Hotel Statler.

AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY, Banquet, Wednesday, June 4, Ball Room, Wade Park Manor.

AMERICAN BOARD OF OTOLARYNGOLOGY, Luncheon and Dinner, Monday June 2, Room 1, Hotel Cleveland.

ASSOCIATED DIPLOMATES OF THE NATIONAL BOARD OF MEDICAL EXAMINERS, Luncheon, Wednesday, June 4, Hotel Statler.

HARVARD MEDICAL SCHOOL ALUMNI, Dinner, Wednesday, June 4, Hermit Club.

JEFFERSON MEDICAL COLLEGE ALUMNI ASSOCIATION, Dinner, Wednesday, June 4, Empire Room, Hotel Cleveland.

JOHNS HOPKINS MEDICAL SCHOOL ALUMNI, Dinner, Wednesday, June 4, Terminal Club, Hotel Cleveland.

NU SIGMA NU MEDICAL FRATERNITY, Luncheon; Wednesday, June 4, Mid-Day Club.

PHI BETA PI MEDICAL FRATERNITY, Luncheon, Wednesday, June 4, Hotel Statler.

PHI CHI MEDICAL FRATERNITY, Luncheon, Wednesday, June 4, Hotel Statler.

PHI DELTA EPSILON FRATERNITY, Luncheon, Wednesday, June 4, Hotel Hollenden.

PHI LAMBDA KAPPA FRATERNITY, Luncheon, Wednesday, June 4, Parlor C, Hotel Statler.

PHI RHO SIGMA MEDICAL FRATERNITY, Luncheon, Wednesday, June 4, Ball Room, Hotel Cleveland.

SECTION ON GASTRO-ENTEROLOGY AND PROCTOLOGY, Dinner, Wednesday, June 4, Rose Room, Hotel Cleveland.

UNIVERSITY OF TORONTO, Dinner, Wednesday, June 4, 7 p. m., Hotel Carter.

WESTERN RESERVE UNIVERSITY MEDICAL SCHOOL ALUMNI, Dinner, Tuesday, June 3, Ball Room, Hotel Cleveland.

American Physicians' Art Association

The American Physicians' Art Association will hold its fourth annual exhibition at the Masonic Temple, June 2-6. Physician-artists may secure further information by writing Dr. F. H. Redewill, Secretary, American Physicians' Art Association, 870 Market Street, San Francisco, Calif.

GOLF TOURNAMENT

The American Medical Golfing Association will hold its twenty-seventh annual tournament at Cleveland Country Club and Pepper Pike Club in Cleveland on Monday, June 2. Members may tee off from 7:30 a. m. to 2 p. m.

FIFTY TROPHIES AND PRIZES

Thirty-six holes of golf will be played in competition for the fifty trophies and prizes in the eight events. Trophies will be awarded for the Association Championship, thirty-six holes gross, the Will Walter Trophy; the Association Handicap

TWO EIGHTEEN HOLE CHAMPIONSHIP COURSES

The twenty-seventh tournament of the American Medical Golfing Association at the Cleveland Country Club and Pepper Pike Club promises to be a wonderful affair. The two courses are of championship caliber and the clubhouse of the Cleveland Country Club, where the golfers' banquet will be held at 7 p. m., is one of the most beautiful and elaborately spacious in the country. The officers of the American Medical Golfing Association anticipate that some two hundred and fifty to three hundred medical golfers from all parts of the United States will play thirty-six holes in Cleveland on June 2.

THE GOLF TOURNAMENT WILL BE HELD AT THESE CLUBS



PEPPER PIKE COUNTRY CLUB



THE CLEVELAND COUNTRY CLUB

Championship, thirty-six holes net, the Detroit Trophy; Championship Flight, First Gross, thirty-six holes, the St. Louis Trophy; Championship Flight, First Net, thirty-six holes, the President's Trophy; Eighteen Hole Championship, the Golden State Trophy; Eighteen Hole Handicap Championship, the Ben Thomas Trophy and the Atlantic City Trophy; Maturity Event, limited to Fellows over 60 years of age, the Minneapolis Trophy; and the Oldguard Championship, limited to competition of past presidents, the Wendell Phillips Trophy. Forty other prizes will be awarded for the various flights.

DR. JOHN B. MORGAN HEADS CLEVELAND GOLF COMMITTEE

The Cleveland Golf Committee is under the able chairmanship of Dr. John B. Morgan, 25 Prospect Avenue N.W., Cleveland, who headed the golfing group when the American Medical Association met in Cleveland in 1934. He will be assisted by Drs. William J. Engel, Farrell T. Gallagher and F. W. Merica.

APPLICATION FOR MEMBERSHIP

All male Fellows of the American Medical Association are eligible and cordially invited to become members of the American Medical Golfing Association. Write Executive Secretary Bill Burns, 2020 Olds Tower, Lansing, Mich., for application blank. Participants in the American Medical Golfing Association tournament are required to present their home club handicap, signed by the club secretary, at the first tee on the day of play. No handicap over thirty is allowed. Only active Fellows of the American Medical Golfing Association may compete for prizes. No trophy is awarded a Fellow who is absent from the annual dinner, which is always worth while waiting for!

WOMAN'S AUXILIARY

SUNDAY, JUNE 1

- 11 a. m. to 4 p. m. Registration: Mezzanine, Hotel Carter.
 2 p. m. to 4 p. m. Auxiliary members and guests will be welcomed by the Hospitality Committee.
 5 p. m. to 7 p. m. Tea at Women's City Club in Honor of Mrs. V. E. Holcombe, National President.



PARKE G. SMITH, M.D.
Cincinnati

Vice President of the American Medical Association, 1940-1941

MONDAY, JUNE 2

- 9:00 a. m. National Board Meeting: English Room, Hotel Carter. Luncheon: Petit Café.
 3:30 p. m. to 5:30 p. m. Sight-seeing on the west side of Cleveland. Refreshments. (Busses start from Hotel Carter.)

7:30 p. m.

Dinner at Union Club in honor of National Board. Address on Orchids by Dr. N. C. Yarian.

TUESDAY, JUNE 3

- 9:00 a. m. Formal Opening: Ballroom, Hotel Carter.
 12:30 p. m. Luncheon: Rainbow Room, Hotel Carter, in Honor of Past Presidents of Woman's Auxiliary.
 2:00 p. m. Conferences of presidents and chairmen of committees of the state auxiliaries: Georgian Room, Hotel Carter.
 3:00 p. m. Tea and Tour of Cleveland Health Museum. (Busses start from Hotel Carter.)
 8:00 p. m. The Opening General Meeting of the American Medical Association: Music Hall, Arena Floor, Cleveland Public Auditorium.

WEDNESDAY, JUNE 4

- 9:00 a. m. General Session of the Auxiliary: Ball Room, Hotel Carter.
 12:30 p. m. Luncheon: Rainbow Room, Hotel Carter.
 3:00 p. m. Visit to the Cleveland Cultural Center in Wade Park. Music by Arthur Quimby, Organist. (Busses leave Hotel Carter at 3 p. m., sharp.)
 5:30 p. m. Busses leave Art Museum for Hotel Carter.
 8:30 p. m. Reception and Musical: Allen Memorial Library. (Busses leave Hotel Carter at 8 p. m.)

THURSDAY, JUNE 5

- 9:00 a. m. Golf Tournament at the Country Club. Busses will leave Hotel Carter for golfers at 9 a. m.
 9:30 a. m. Postconvention Meeting of National Board: Spanish Room, Hotel Carter.
 12:00 Noon Bus trip to the Country Club. Luncheon and style show.
 6:30 p. m. Annual Dinner for members, husbands and guests at Hotel Carter. Dinner will terminate in time for all to attend the President's Reception and Ball given by the American Medical Association.
 9:00 p. m. Reception and Ball in honor of the President of the American Medical Association: Hotel Cleveland.

FRIDAY, JUNE 6

Shopping and inspection tours under the direction of the Hospitality Committee. Luncheon: Higbee's Lounge, Terminal Building Group; speaker, Mrs. Louis Heller Jr. on "Flower Arrangements."

Exhibits will be on display throughout the week in the Aviation Room, Hotel Carter.

RADIO PROGRAM

The following broadcasts have been scheduled on National Broadcasting Company and Columbia Broadcasting System networks and Cleveland local stations:

- WTAM-NBC. Dr. N. B. Van Etten, New York. "Medical Progress and National Defense."
 WTAM. Dr. Lowell S. Selling, Detroit. "Traffic Offenses."
 WTAM. Dr. John D. Currence, New York. "Arthritis."
 N. B. C. Blue Network. Dr. W. W. Bauer, Chicago. "Convention News."
 WHK. Dr. M. S. White, Randolph Field, Texas. "Effects of Flying."
 WHK. Dr. J. West Mitchell, Sewickley, Pa. "Diabetes."
 WGAR-CBS. Dr. Frank H. Lahey, Boston. "Progress in Medicine and Surgery."

- WGAR-CBS. Speaker and subject to be announced.
 WGAR. Dr. Grover C. Penberthy, Detroit. "Treatment of Burns."
 WGAR. Dr. Gordon B. New, Rochester, Minn. "Treatment of Face Injuries."
 WCLE. Dr. Walter C. Alvarez, Rochester, Minn. "Food Allergies."
 WCLE. Dr. G. Wilse Robinson Jr., Kansas City, Mo. "Old Age."

Special broadcasts for the children in Cleveland and suburban schools have been scheduled on the short wave radio station WBOE, operated by the Cleveland Public Schools, as follows:

1. Dr. Sara M. Jordan, Boston. "Constipation and Laxatives."
2. Dr. M. E. Obermayer, Chicago. "Skin and Adolescence."

PRELIMINARY PROGRAM OF THE SCIENTIFIC ASSEMBLY

GENERAL SCIENTIFIC MEETINGS

Monday, June 2, 2 p. m., Music Hall, Arena Floor,
Cleveland Public Auditorium

PROGRAM BY CLEVELAND PHYSICIANS

S. P. MENGEL, Chairman

RUSSELL L. HADEN, Presiding

- 2:00 p. m. Syphilotherapy: Newer Advances.
HAROLD N. COLE.
- 2:30 p. m. Carcinoma of the Lung (Lantern Demonstration):
Medical Aspects. R. C. MCKAY.
Radiographic Findings. HARRY HAUSER.
Surgical Treatment. S. O. FREEBLANDER.
- 3:15 p. m. Operability and End Results in Carcinoma of
Colon. THOMAS E. JONES.
- 3:45 p. m. Treatment of Burns. D. M. GLOVER.
- 4:15 p. m. Arterial Hypertension:
Experimental Physiology. HARRY GOLDBLATT.
Clinical Aspects. ROY W. SCOTT.

Tuesday, June 3, 9 a. m., Music Hall, Arena Floor,
Cleveland Public Auditorium

PANEL DISCUSSION ON POLIOMYELITIS

Sponsored by the National Foundation for Infantile Paralysis
and the American Medical Association

A. A. WALKER, Chairman

A. GRAEME MITCHELL, Presiding

- Etiology. ALBERT B. SABIN, Cincinnati.
- Pathology. ERNEST W. GOODPASTURE, Nashville, Tenn.
- Epidemiology (Lantern Demonstration).
JAMES D. TRASK, New Haven, Conn.
- Diagnosis (Lantern Demonstration).
JOHN A. TOOMEY, Cleveland.
- Serum Therapy and Vaccination.

HAROLD K. FABER, San Francisco.

Respirators.

JAMES L. WILSON, Detroit.

Early Orthopedic Treatment. C. E. IRWIN, Warm Springs, Ga.

Tuesday, June 3, 2 p. m., Music Hall, Arena Floor,
Cleveland Public Auditorium

RELATION OF AMERICAN MEDICINE AND
THE NATIONAL DEFENSE

J. GURNEY TAYLOR, Chairman

- 2:00 p. m. The Medical Profession and Medical Prepared-
ness. IRVIN ABELL, Louisville, Ky.
- 2:15 p. m. The National Research Council and Medical Pre-
paredness. LEWIS H. WEED, Washington, D. C.
- 2:30 p. m. The Role of Industrial Medicine in Medical Pre-
paredness. STANLEY J. SEEGER, Milwaukee.
- 2:45 p. m. The Procurement of Medical Personnel and
and Material in the Present Emergency.
JAMES C. MAGEE, Washington, D. C.
- 3:00 p. m. Medical Problems Peculiar to the Navy and
National Defense.
ROSS T. MCINTIRE, Washington, D. C.
- 3:15 p. m. The Function of the Public Health Service in
National Preparedness.
THOMAS PARRAN, Washington, D. C.
- 3:30 p. m. Intermission.
- 3:45 p. m. Venereal Diseases and National Preparedness.
J. EARL MOORE, Baltimore.
- 4:00 p. m. Tuberculosis and National Defense.
ESMOND R. LONG, Philadelphia.
- 4:15 p. m. The Heart in the Military Service.
EUGENE S. KILGORE, San Francisco.
- 4:30 p. m. The Role of Psychiatry in National Defense.
FRANKLIN G. EBAUGH, Denver.

THE OPENING GENERAL MEETING

Music Hall, Arena Floor, Cleveland Public Auditorium

Tuesday, June 3—8 p. m.

Music. String Orchestra, WALBERG BROWN, Conductor.

Introduction of the President, NATHAN B. VAN ETEN.
CHARLES T. WAX, President, Academy of Medicine of Cleve-
land.

Call to Order by the President, NATHAN B. VAN ETEN.

Invocation. REV. JAMES AUSTIN RICHARDS, D.D.

Welcome from Medical Profession of Ohio. WILLIAM M.
SKIPP, President, Ohio State Medical Association.

Welcome to Ohio and to Cleveland:

HON. JOHN BRICKER, Governor of Ohio.

HON. EDWARD BLYTHIN, Mayor of Cleveland.

Violin Solo. JEROME GROSS, with RAFAEL DOMINGUEZ, Accom-
panist.

Announcements. CLYDE L. CUMMER, Chairman, Local Com-
mittee on Arrangements.

Introduction and Installation of President-Elect FRANK H.
LAHEY, Boston.

Address. FRANK H. LAHEY, President.

Presentation of Medal to Retiring President NATHAN B. VAN
ETEN. ARTHUR W. BOOTH, Chairman of the Board of
Trustees.

Presentation of Distinguished Service Medal. FRANK H.
LAHEY, President.

Benediction. RT. REV. MONSIGNOR MAURICE GRIFFIN, LL.D.

THE PROGRAMS OF THE SECTIONS

Outline of the Scientific Proceedings—The Preliminary
Program and the Official Program

The following papers are announced to be read before the
various sections. The order here is not necessarily the order
that will be followed in the Official Program, nor is the list
complete. The Official Program will be similar to the pro-
grams issued in previous years and will contain the final pro-
gram of each section with abstracts of the papers, as well as
lists of committees, program of the Opening General Meeting,
list of entertainments, map of Cleveland, and other informa-
tion. To prevent misunderstandings and protect the interest of
advertisers, it is here announced that this Official Program
will contain no advertisements. It is copyrighted by the Ameri-
can Medical Association and will not be distributed before the
session. A copy will be given to each Fellow on registration.

SECTION ON PRACTICE OF MEDICINE

MEETS IN BALL ROOM, FOURTH FLOOR, CLEVELAND
PUBLIC AUDITORIUM

OFFICERS OF SECTION

Chairman—FRED M. SMITH, Iowa City.

Vice Chairman—W. W. PALMER, New York.

Secretary—W. D. STROUD, Philadelphia.

Executive Committee—N. C. GILBERT, Chicago; WILLIAM S.
McCANN, Rochester, N. Y.; FRED M. SMITH, Iowa City.

Wednesday, June 4—9 a. m.

Lymphatic Leukemia (Lantern Demonstration).

FRANK H. BETHELL, Ann Arbor, Mich.

Important Facts Additive to the Clinical and Hematologic
Recognition of Atypical Lymphatic Leukemia (Lantern
Demonstration). B. K. WISEMAN, Columbus, Ohio.

Clinical and Laboratory Studies of the Effect of Radioactive
Phosphorus on Leukemia (Lantern Demonstration).

C. P. RHODES, New York.

The Frank Billings Lecture: Boeck's Sarcoid (Lantern Demon-
stration). WARFIELD T. LONGCOPE, Baltimore.

Therapeutic Experiences in Hodgkin's Disease (Lantern Dem-
onstration). OVID O. MEYER, Madison, Wis.

Discussion to be opened by RAPHAEL ISAACS, Ann Arbor,
Mich.

Roentgen Observations in Boeck's Sarcoid, Hodgkin's Disease and Erythema Nodosum (Lantern Demonstration).

MERRILL C. SOSMAN, Boston.

Discussion to be opened by E. P. PENDERGRASS, Philadelphia, and JOHN W. PIERSON, Baltimore.

Thursday, June 5—9 a. m.

Election of Officers

Blood Donors: Their Rate of Hemoglobin Regeneration (Lantern Demonstration).

WILLIS M. FOWLER and A. P. BARER, Iowa City.

Blood Plasma: Its Place in the Practice of Medicine, with Special Consideration of the Problems of Preservation.

MAX M. STRUMIA and JOHN J. MCGRAW, Bryn Mawr, Pa. (Lantern Demonstration).

Discussion on papers of DRs. FOWLER and BARER and DRs. STRUMIA and MCGRAW to be opened by CHARLES A. DOAN, Columbus, Ohio, and PAUL I. HONWORTH, Cincinnati.

Chairman's Address.

FRED M. SMITH, Iowa City.

Management of Scarlet Fever Contacts (Lantern Demonstration).

PAUL S. RHOADS, W. H. TUCKER and BENJAMIN RAPPAPORT, Evanston, Ill.

Nutrition: A Public Health Problem.

RUSSELL M. WILDER, Rochester, Minn.

Discussion to be opened by JAMES S. MCLESTER, Birmingham, Ala.

Geriatrics in National Defense.

EDWARD J. STIEGLITZ, Garrett Park, Md.

Friday, June 6—9 a. m.

JOINT MEETING WITH SECTION ON PHARMACOLOGY AND THERAPEUTICS

The "Anoxemia Test" as an Index of the Coronary Reserve: Serial Observations in Patients with Their Application to the Detection and Clinical Course of Coronary Insufficiency (Lantern Demonstration).

ROBERT L. LEVY, JAMES E. PATTERSON, THOMAS W. CLARK and HOWARD G. BRUENN, New York.

Discussion to be opened by ROY W. SCOTT, Cleveland, and ARLIE R. BARNES, Rochester, Minn.

The Sudden Death of Patients with Few Symptoms of Heart Disease (Lantern and Motion Picture Demonstration).

GEORGE V. LEROY and S. S. SNIDER, Chicago.

Physical Therapy in Internal Medicine (Lantern Demonstration).

GEORGE MORRIS PIERSOL, Philadelphia.

Therapeutic Efficiency of a Digitalis Glucoside, Digilanid C, in Congestive Heart Failure with Normal Sinus Rhythm (Lantern Demonstration).

GEORGE E. FAHR and J. S. LA DUE, Minneapolis.

Discussion to be opened by ARLIE R. BARNES, Rochester, Minn.

Chemotherapy of Pneumonias and Immunity Reactions (Lantern Demonstration).

JESSE G. M. BULLOWA, New York.

Discussion to be opened by WILLIAM H. KELLEY, Charleston, S. C.; LYNN T. HALL, Omaha; JOHN W. BROWN, San Francisco, and ELMER H. LOUGHLIN, Brooklyn.

Elimination Diets (Lantern Demonstration).

ALBERT H. ROWE, Oakland, Calif.

SECTION ON SURGERY, GENERAL AND ABDOMINAL

MEETS IN MUSIC HALL, ARENA FLOOR, CLEVELAND
PUBLIC AUDITORIUM

OFFICERS OF SECTION

Chairman—LLOYD NOLAN, Fairfield, Ala.

Vice Chairman—THOMAS E. JONES, Cleveland.

Secretary—ARTHUR W. ALLEN, Boston.

Executive Committee—HENRY W. CAVE, New York; THOMAS M. JOYCE, Portland, Ore.; LLOYD NOLAN, Fairfield, Ala.

Wednesday, June 4—2 p. m.

Carcinoma of the Stomach in a Large General Hospital (Lantern Demonstration).

FREDERICK F. BOYCE, New Orleans.
Discussion to be opened by A. W. OUGHTERSON, New Haven, Conn.

Malignant Lesions of the Stomach: Importance of Early Treatment and Results (Lantern Demonstration).

WALTMAN WALTERS, H. K. GRAY and JAMES T. PRIESTLEY, Rochester, Minn.

Discussion to be opened by ELLIOTT C. CUTLER, Boston, and GEORGE T. PACK, New York.

The Effect of Hot and Cold Applications to the Abdominal Wall and Also Hot and Cold Fluids Administered by Mouth on Gastric and Intestinal Secretory and Peristaltic Activity (Lantern Demonstration).

J. DEWEY BISGARD, Omaha.

Discussion to be opened by CHARLES W. MAYO, Rochester, Minn., and JAMES M. WINFIELD, Detroit.

The Miller-Abbott Tube in Surgery (Lantern Demonstration).

OCTA C. LEIGH JR. and RICHARD O. DIEFENDORF, New York.

The Local Use of Powdered Sulfanilamide in Infections of the Peritoneal Cavity (Lantern Demonstration).

R. STERLING MUELLER and JAMES E. THOMPSON, New York.

Discussion to be opened by HENRY W. CAVE, New York.

The Use of Sulfanilamide in the Peritoneum: Experimental and Clinical Observations (Lantern Demonstration).

HOWARD C. JACKSON and FREDERICK A. COLLIER, Ann Arbor, Mich.

Thursday, June 5—2 p. m.

Election of Officers

The Surgical Management of Gallbladder Disease as Correlated with Newer Physiologic Concepts (Lantern Demonstration).

H. GLENN BELL and LEON GOLDMAN, San Francisco.

Discussion to be opened by WARREN H. COLE, Chicago.

The Use of Cotton as a Suture Material, with Particular Reference to Its Clinical Application (Lantern Demonstration).

WILLIAM H. MEADE and CARROLL H. LONG, New Orleans.

Discussion to be opened by DONALD GUTHRIE, Sayre, Pa., and JOHN M. FARRIS, Ann Arbor, Mich.

Embryoma of the Kidney (Wilms Tumor) (Lantern Demonstration).

WILLIAM E. LADD and ROBERT R. WHITE, Boston.

Discussion to be opened by JAMES T. PRIESTLEY, Rochester, Minn.

Chairman's Address: Diagnosis, a Responsibility of the Surgeon.

LLOYD NOLAN, Fairfield, Ala.

Cancer of the Lung of Long Duration (Lantern Demonstration).

ALFRED GOLDMAN, San Francisco.

Discussion to be opened by EDWARD J. O'BRIEN, Detroit.

The Surgical Approach to Hypertension (Lantern Demonstration).

GEZA DE TAKATS and HOWARD E. HEYER, Chicago.

Discussion to be opened by REGINALD H. SMITHWICK, Boston, and PETER HEINBECKER, St. Louis.

Phlebitis and Pulmonary Embolism (Lantern Demonstration).

CLAUDE E. WELCH and HENRY H. FAXON, Boston.

Discussion to be opened by ALTON OCHSNER, New Orleans.

Friday, June 6—9 a. m.

JOINT MEETING WITH THE SECTION ON ORTHOPEDIC SURGERY IN LITTLE THEATER, ARENA FLOOR, CLEVELAND PUBLIC AUDITORIUM

The Mechanism of Delayed Wound Healing in the Presence of Hypoproteinemia (Lantern Demonstration).

JONATHAN E. RHOADS and M. T. FLIEGELMAN, Philadelphia.

Discussion to be opened by I. S. RAYDIN, Philadelphia, and CHARLES G. JOHNSTON, Detroit.

Similarities and Distinctions Between Shock and the Effects of Hemorrhages (Lantern Demonstration).

VIRGIL H. MOON, D. R. MORGAN, M. M. LIEBER and DONALD J. MCGREW, Philadelphia.

Discussion to be opened by LESTER R. DRAGSTEDT, Chicago.

Traumatic Rupture of the Intestine Due to Nonpenetrating Wounds of the Abdomen (Lantern Demonstration).

D. HENRY POER and IRA A. FERGUSON, Atlanta, Ga., and EDWARD WOLIVER, Cincinnati.

Fresh Compound Fractures: Treatment by Sulfa-Drugs and by Internal Fixation in Selected Cases (Lantern Demonstration).

WILLIS C. CAMPBELL and HUGH SMITH, Memphis, Tenn.

Discussion to be opened by WALTER G. STERN, Cleveland; and HAROLD R. BOHLMAN, Baltimore.

- The Splinting of Compound Fractures (Lantern Demonstration). FRANK J. COX, New Orleans.
Discussion to be opened by PHILIP D. WILSON, New York, and ROGER ANDERSON, Seattle.
Chemotherapy in the Treatment of Compound Fractures (Lantern and Motion Picture Demonstration).
REX L. DIVELEY, Kansas City, Mo.
Discussion to be opened by FRANCIS M. MCKEEVER, Los Angeles, and ROBERT W. JOHNSON JR., Baltimore.

SECTION ON OBSTETRICS AND GYNECOLOGY

MEETS IN MUSIC HALL, ARENA FLOOR, CLEVELAND
PUBLIC AUDITORIUM

OFFICERS OF SECTION

- Chairman—NORMAN F. MILLER, Ann Arbor, Mich.
Vice Chairman—WILLARD R. COOKE, Galveston, Texas.
Secretary—PHILIP F. WILLIAMS, Philadelphia.
Executive Committee—HARVEY B. MATTHEWS, Brooklyn; LUDWIG A. EMGE, San Francisco; NORMAN F. MILLER, Ann Arbor, Mich.

Wednesday, June 4—9 a. m.

- Indications and Relative Merits of the Classic, Low and Extra-peritoneal Cesarean Sections (Lantern Demonstration).
SAMUEL A. COSGROVE and JAMES F. NORTON, Jersey City, N. J.
Mortality, Early and Late, Following Cesarean Section (Lantern Demonstration). FREDERICK H. FALLS, Chicago.
Discussion on papers of DRS. COSGROVE and NORTON and DR. FALLS to be opened by LOUIS E. PHANEUF, Boston; H. HUDNALL WARE JR., Richmond, Va., and HERBERT F. TRAUT, New York.
Early Diagnosis and Proper Management in Cervical Cancer (Lantern Demonstration).
DANIEL G. MORTON, San Francisco.
Premarital and Antepartum Wassermann Tests (Lantern Demonstration). CHARLES H. PECKHAM, Cooperstown, N. Y.
Discussion to be opened by CARL P. HUBER, Indianapolis, and HERMAN BEERMAN, Philadelphia.
The Simpson Operation and the Smith Pessary in the Treatment of Retroflexioversion of the Uterus in the Child-bearing Woman (Lantern Demonstration).
BROOKE M. ANSPACH and JOHN B. MONTGOMERY, Philadelphia.
Discussion to be opened by PAUL TITUS, Pittsburgh, and ARTHUR H. BILL, Cleveland.

Thursday, June 5—9 a. m.

- Androgen Therapy in Gynecology (Lantern Demonstration).
SAMUEL H. GEIST, New York.
Uses and Limitations of Estrogens in Gynecic Practice (Lantern Demonstration). E. C. HAMBLIN, Durham, N. C.
Discussion on papers of DRS. GEIST and HAMBLIN to be opened by LUDWIG A. EMGE, San Francisco; CHARLES MAZER, Philadelphia; JEAN PAUL PRATT, Detroit, and JAMES B. HAMILTON, New Haven, Conn.
Pruritus Ani and Vulvae: Diagnosis and Management (Lantern Demonstration). RACHELLE SELETZ, Los Angeles.
Discussion to be opened by E. W. NETHERTON, Cleveland, and H. C. HESSELTINE, Chicago.
Deflexion Attitudes in Breech Presentation (Lantern Demonstration). IRVING F. STEIN, Chicago.
Discussion to be opened by HAROLD HENDERSON, Detroit.
Sulfathiazole in the Treatment of Gonorrhea in Women (Lantern Demonstration). PAUL F. FLETCHER, St. Louis.
Discussion to be opened by V. ROGERS DEAKIN and WILLIAM H. VOGT, St. Louis.
Chairman's Address: The Perpetuation of Error in Obstetrics and Gynecology. NORMAN F. MILLER, Ann Arbor, Mich.

Friday, June 6—9 a. m.

- Election of Officers
The Toxemias of Pregnancy: Their Classification and Aid to Management of Parturition (Lantern Demonstration).
ROBERT D. MUSSEY and ARTHUR B. HUNT, Rochester, Minn.
Discussion to be opened by WILLIAM J. DIECKMANN, Chicago.

- The Importance of Oxygen Tent Therapy as an Additional Measure in the Conservative Treatment of Eclampsia.
ROY E. NICOMEMUS, Danville, Pa.
Discussion to be opened by THADDEUS L. MONTGOMERY, Philadelphia.
The Premarital Medical Consultation (Lantern Demonstration).
ROBERT L. DICKINSON, New York.
Discussion to be opened by SOPHIA J. KLEEGMAN, New York.
Pregnancy with Double Uterus and Vagina: Complications, Management and Prognosis (Lantern Demonstration).
GOODRICH C. SCHAUFFLER, Portland, Ore.
Discussion to be opened by NORMAN F. MILLER, Ann Arbor, Mich.
The Ammonium Chloride Therapy of Premenstrual Distress.
J. P. GREENHILL and S. C. FREED, Chicago.
Discussion to be opened by WILLIAM J. DIECKMANN, Chicago, and JACOB KOTZ, Washington, D. C.

SECTION ON OPHTHALMOLOGY

MEETS IN BALL ROOM OF HOTEL HOLLENDEEN

OFFICERS OF SECTION

- Chairman—ALBERT C. SNELL, Rochester, N. Y.
Vice Chairman—EDWARD M. NEHER, Salt Lake City.
Secretary—DERRICK VAIL, Cincinnati.
Executive Committee—S. JUDD BEACH, Portland, Maine; HARRY S. GRADLE, Chicago; ALBERT C. SNELL, Rochester, N. Y.

Wednesday, June 4—2 p. m.

- Chairman's Address: Some Principles of Medical Ethics and the Practice of Ophthalmology.
ALBERT C. SNELL, Rochester, N. Y.
Traumatic Changes in the Retina, Choroid, Nervehead and Vitreous (Lantern Demonstration).
ARTHUR J. BEDELL, Albany, N. Y.
Discussion to be opened by PARKER HEATH, Detroit, and MORRIS DAVIDSON, New York.
Lime Burns of the Eye. The Use of Rabbit Peritoneum to Prevent Severe Delayed Effects: Experimental Studies and Report of Cases (Lantern Demonstration).
ALBERT L. BROWN, Cincinnati.
Discussion to be opened by EUGENE L. BULSON, Fort Wayne, Ind., and ROBERT J. MASTERS, Indianapolis.
Retinal Phlebosclerosis (Lantern Demonstration).
GLEN GREGORY GIBSON and LAWRENCE W. SMITH, Philadelphia.
Discussion to be opened by CECIL S. O'BRIEN, Iowa City, and HENRY PATRICK WAGENER, Rochester, Minn.
Retinal Arterial Diastolic Blood Pressure and the Caliber of the Retinal Arterioles in Systemic Vascular Hypertension: A Clinical Study (Lantern Demonstration).
FERDINAND L. P. KOCH, New York.
Discussion to be opened by IRVING PUNTENNEY and JAMES E. LEBENSOHN, Chicago.
Causes of Blindness in Pennsylvania: An Analysis of a Group of Over Thirty Thousand Blind Eyes (Lantern Demonstration).
ALFRED COWAN, Philadelphia.
Discussion to be opened by C. W. RUTHERFORD, Indianapolis, and HARRY S. GRADLE, Chicago.

Thursday, June 5—2 p. m.

- The Epidemiology of Inclusion Conjunctivitis (Lantern Demonstration).
PHILLIPS THYGESON, New York.
Discussion to be opened by ALSON E. BRALEY, Detroit, and L. A. JULIANELLE, St. Louis.
Etiology of Uveitis: A Clinical Study of Five Hundred and Sixty-Two Cases (Lantern Demonstration).
JACK S. GUYTON and ALAN C. WOODS, Baltimore.
Discussion to be opened by WALTER F. DUGGAN, Utica, N. Y., and JOHN S. MCGAVIC, New York.
Ocular Conditions Associated with Coliform Bacteria: Certain Clinical and Experimental Considerations of Infections of the Upper Respiratory Tract with Coliform Bacteria (Lantern Demonstration).
CONRAD BERENS, New York.
Discussion to be opened by PETER C. KRONFELD, Chicago, and JOHN A. TOOMEY, Cleveland.
Superficial Punctate Parenchymatous Keratitis (Lantern Demonstration).
WILLIAM THORNWALL DAVIS, Washington, D. C.
Discussion to be opened by SANFORD R. GIFFORD, Chicago, and TRYGVE GUNDERSEN, Boston.

Demonstration Session**Demonstration of Tonometer.**

DAVID O. HARRINGTON, San Francisco.

Corneal Scleral Sutures (Lantern Demonstration).

SAMUEL G. HIGGINS, Milwaukee.

Friday, June 6—2 p. m.

Executive Session**Election of Officers****Hereditary Glaucoma in Three Generations of a Family (Lantern Demonstration).**THOMAS D. ALLEN and WALTER G. ACKERMAN, Chicago.
Discussion to be opened by WILLIAM H. STOKES, Omaha,
and PAUL A. CHANDLER, Boston.**Tonometric Standardization: A Contribution to the Accuracy of Tonometry Through a Method of Reducing Its Variables to Constants and Minimizing Its Errors Through Refinement and Standardization of the Tonometer (Lantern Demonstration).**

DAVID O. HARRINGTON, San Francisco.

Discussion to be opened by JONAS S. FRIEDENWALD,
Baltimore, and T. L. TERRY, Boston.**Ocular Torticollis: Differential Diagnosis (Lantern Demonstration).**

LOREN PRITCHARD GUY, New York.

Discussion to be opened by A. D. RUEDEMANN, Cleveland, and DON MARSHALL, Kalamazoo, Mich.

Paralysis of the Superior Rectus and Inferior Oblique of the Same Eye (Lantern Demonstration).

JAMES W. WHITE, New York.

Discussion to be opened by JOHN B. HITZ, Milwaukee, and WALTER B. LANCASTER, Hanover, N. H.

Fusional Movements in Permanent Strabismus: A Study of the Role of the Central and Peripheral Retinal Regions in the Act of Binocular Vision in Squint (Lantern Demonstration).

HERMANN M. BURIAN, Hanover, N. H.

Discussion to be opened by WALTER HENRY FINK,
Minneapolis, and AVERY M. HICKS, San Francisco.**SECTION ON LARYNGOLOGY, OTOTOLOGY
AND RHINOLOGY**

MEETS IN BALL ROOM OF HOTEL HOLLENDEN

OFFICERS OF SECTION

Chairman—LEROY A. SCHALL, Boston.

Vice Chairman—W. E. GROVE, Milwaukee.

Secretary—LOUIS H. CLERF, Philadelphia.

Executive Committee—H. MARSHALL TAYLOR, Jacksonville, Fla.; ARTHUR W. PROETZ, St. Louis; LEROY A. SCHALL, Boston.

Wednesday, June 4—9 a. m.

The Influence of Expectorants and Gases on Sputum and the Mucous Membranes of the Tracheobronchial Tree (Lantern Demonstration).

PAUL H. HOLINGER, Chicago.

Discussion to be opened by JULIUS H. HESS, Chicago.

The Relation of Tonsillectomy to Poliomyelitis (Lantern Demonstration).

ERNEST M. SEYDELL, Wichita, Kan.

Discussion to be opened by HARRIS P. MOSHER, Marblehead, Mass., and T. E. CARMODY, Denver.

Problems of the Hard of Hearing in Industry.

W. E. GROVE, Milwaukee.

Discussion to be opened by HORACE NEWHART, Minneapolis, and C. H. McCASKEY, Indianapolis.

Acute Laryngotracheobronchitis.

F. E. LEJEUNE and P. J. BAYON, New Orleans.

Discussion to be opened by HENRY B. ORTON, Newark, N. J., and LYMAN G. RICHARDS, Boston.

The Use of Iodized Oil in the Treatment of Nasal Antrum Infections (Lantern Demonstration).

HENRY M. GOODYEAR, Cincinnati.

Discussion to be opened by ARTHUR W. PROETZ, St. Louis; O. E. VAN ALYEA, Chicago, and PAUL M. MOORE JR., Cleveland.

Thursday, June 5—9 a. m.

Chairman's Address: The Treatment of Staphylococcal Cavernous Sinus Thrombophlebitis (Lantern Demonstration).

LEROY A. SCHALL, Boston.

Principles of Chemotherapy (Lantern Demonstration).

WILLIAM D. PROVINCE, New York.

Discussion to be opened by GEORGE E. SHAMBAUGH JR., Chicago, and EDWARD D. KING, Cincinnati.

Ozena (Lantern Demonstration).

M. M. CULLOM, Nashville, Tenn.

Discussion to be opened by JOSEPH C. BECK, Chicago, and J. MILTON ROBB, Detroit.

Atypical Nasal Allergy (Lantern Demonstration).

FRENCH K. HANSEL, St. Louis.

The Relationship of Otolaryngology to Allergy (Lantern Demonstration).

FLETCHER D. WOODWARD and OSCAR SWINEFORD JR., Charlottesville, Va.

Discussion on papers of DR. HANSEL and DR. WOODWARD and SWINEFORD to be opened by GRAFTON TYLER BROWN, Washington, D. C.; J. ALEXANDER CLARKE JR., Philadelphia, and T. C. GALLOWAY, Evanston, Ill.

Friday, June 6—9 a. m.

Election of Officers**Diseases of the Salivary Glands (Lantern Demonstration).**

A. C. FURSTENBERG, Ann Arbor, Mich.

Discussion to be opened by ROBERT F. RIDPATH, Philadelphia; WALTER B. HOOVER, Boston, and GORDON B. NEW, Rochester, Minn.

Thrombosis of the Lateral Sinus: An Analysis of Results Obtained in One Hundred and Nineteen Cases (Lantern Demonstration).

LOUIS HUBERT, New York.

Discussion to be opened by GEORGE M. COATES, Philadelphia, and FRED W. DIXON, Cleveland.

The Technic of Bronchography and a System of Bronchial Nomenclature (Lantern Demonstration).

RALPH ADAMS and LOWRY F. DAVENPORT, Boston.

Discussion to be opened by MILLARD F. ARBUCKLE, St. Louis; J. J. SINGER, Los Angeles, and CHEVALIER L. JACKSON, Philadelphia.

Prophylaxis of the Common Cold.

THEODORE E. WALSH, St. Louis.

Discussion to be opened by JOHN J. SHEA, Memphis, Tenn., and ANDERSON C. HILDING, Duluth, Minn.

Rhinoplasty and Its Relation to Rhinology (Lantern Demonstration).

GEORGE D. WOLF, New York.

Discussion to be opened by SAMUEL SALINGER, Chicago; VILRAY P. BLAIR, St. Louis, and MYRON F. METZENBAUM, Cleveland.

SECTION ON PEDIATRICSMEETS IN BALL ROOM, FOURTH FLOOR, CLEVELAND
PUBLIC AUDITORIUM**OFFICERS OF SECTION**

Chairman—JULIUS H. HESS, Chicago.

Vice Chairman—JOHN A. TOOMEY, Cleveland.

Secretary—HUGH L. DWYER, Kansas City, Mo.

Executive Committee—EDWARD CLAY MITCHELL, Memphis, Tenn.; ALBERT D. KAISER, Rochester, N. Y.; JULIUS H. HESS, Chicago.

Wednesday, June 4—2 p. m.

Prognosis of Acute Hemorrhagic Nephritis in Children (Lantern Demonstration).

JOHN DORSEY CRAIG, New York.

Discussion to be opened by ADOLPH G. DESANCTIS, New York.

Spontaneous Pneumomediastinum of the Newborn Infant (Lantern Demonstration).

BERNARD GUMBINER, Chicago.

Discussion to be opened by C. C. MACKLIN, London, Canada, and WILLIAM E. ANSPACH, Chicago.

Burns in Children: Analysis of Two Hundred Cases (Lantern Demonstration).

H. JERRY LAVENDER, Cincinnati.

Discussion to be opened by R. H. ALDRICH, Boston, and ADALBERT G. BETTMAN, Portland, Ore.

Evaluation of Vitamin B Blood Level as an Indicator of Vitamin A Deficiency in Infants and in Children (Lantern Demonstration).

J. M. LEWIS, OSCAR BODANSKY and CHARLES HAIG, New York.

Discussion to be opened by ARTHUR F. ABT, Chicago, and NORMAN H. JOLLIFFE, New York.

Twenty Years' Observation on 1,438 Children with Rheumatic Heart Disease (Lantern Demonstration).
ALEXANDER T. MARTIN, New York.
Discussion to be opened by WILLIAM D. STROUD, Philadelphia.

The Intramedullary Route for the Parenteral Administration of Blood and Other Fluids (Lantern and Motion Picture Demonstration).
L. M. TOCANTINS, JAMES F. O'NEILL and H. W. JONES, Philadelphia.

Parallel Clinical and Electroencephalographic Improvement in Epilepsy: A Study of Children Treated by the Ketogenic Diet (Lantern Demonstration).
GEORGE B. LOGAN and EDWARD J. BALDES, Rochester, Minn.

Thursday, June 5—2 p. m.

Election of Officers

Chairman's Address. The Pediatrician: His Obligation to the State in Peace and War. JULIUS H. HESS, Chicago.

PANEL DISCUSSION ON ENDOCRINE DISORDERS OF ADOLESCENCE

(Time limit ten minutes)

HENRY H. TURNER, Oklahoma City, Leader
Preadolescent Hypothyroidism (Lantern Demonstration).
E. KOST SHELTON, Los Angeles.

Hyperthyroidism in Childhood (Lantern Demonstration).
ROGER L. J. KENNEDY, Rochester, Minn.

Endocrine Factors Influencing Growth (Lantern Demonstration).
A. WILMOT JACOBSEN, Buffalo.

Gynecologic Problems of Adolescence. EMIL NOVAK, Baltimore.
Adiposogenital Dystrophies (Lantern Demonstration).
RALPH H. KUNSTADTER, Chicago.

Endocrine Treatment of Cryptorchism (Lantern Demonstration).
WILLARD O. THOMPSON, Chicago.

Acne of Adolescence (Lantern Demonstration).
RICHARD L. SUTTON JR., Kansas City, Mo.
Discussion to be opened by THEODORE O. ELTERICH, Pittsburgh, and E. PERRY McCULLAGH, Cleveland.

Friday, June 6—9 a. m.

JOINT MEETING WITH SECTION ON PREVENTIVE AND INDUSTRIAL MEDICINE AND PUBLIC HEALTH
IN SOUTH HALL A, SECOND FLOOR,
CLEVELAND PUBLIC AUDITORIUM

HAVEN EMERSON, New York, Chairman

School Health Policies. CHARLES C. WILSON, Hartford, Conn.
Uses and Abuses of School Physical Examinations.
BENJAMIN M. SPOCK, New York.

Eye Examinations in Public Schools (Lantern Demonstration).
HARRY S. GRADLE, Chicago.

Communicable Disease Control.
GEORGE M. WHEATLEY, Plandome, Long Island, N. Y.

SECTION ON PHARMACOLOGY AND THERAPEUTICS

MEETS IN CLUB ROOM B, THIRD FLOOR, CLEVELAND PUBLIC AUDITORIUM

OFFICERS OF SECTION

Chairman—C. M. GRUBER, Philadelphia.
Vice Chairman—WALLACE M. YATER, Washington, D. C.
Secretary—EDGAR V. ALLEN, Rochester, Minn.
Executive Committee—ERWIN E. NELSON, New Orleans; IRVING S. WRIGHT, New York; C. M. GRUBER, Philadelphia.

Wednesday, June 4—2 p. m.

Blood Pressure Determinations of Patients with Hypertension (Lantern Demonstration). DAVID AYMAN, Boston.

Treatment of Hypertension with Potassium Thiocyanate (Lantern Demonstration).
M. HERBERT BARKER and HOWARD A. LINDBERG, Chicago, and MAURICE H. WALD, Winnetka, Ill.
Discussion on papers of DR. AYMAN and DRS. BARKER, LINDBERG and WALD to be opened by N. W. BARKER, Rochester, Minn.; JOHN R. WILLIAMS, Winston-Salem, N. C., and JOHNSON MCGUIRE, Cincinnati.

Treatment of Arthritis with Gold Compounds (Lantern Demonstration).
EDWARD F. HARTUNG, New York.
Discussion to be opened by CHARLES H. SLOCUMB, Rochester, Minn., and RUSSELL L. CECIL, New York.

Treatment of Neurologic Disorders with Vitamins (Lantern Demonstration). NORMAN H. JOLLIFFE, New York.

Diagnosis and Treatment of Mild Vitamin Deficiencies.
TOM D. SPIES, Cincinnati.

Discussion on papers of DRs. JOLLIFFE and SPIES to be opened by F. P. MOERSCH, Rochester, Minn.; I. S. WECHSLER, New York, and C. A. MILLS, Cincinnati.

Treatment of the Menopause: Evaluation of Estrogen Implantation (Lantern Demonstration).

UDALL J. SALMON, New York.
Discussion to be opened by GERSON R. BISKIND, San Francisco.

Treatment of Acute Nephritis: Outcome in Ten Years in Eighty-Nine Cases (Lantern Demonstration).

FRANCIS D. MURPHY and BRUNO J. PIETRASZEWSKI, Milwaukee.

Discussion to be opened by N. M. KEITH, Rochester, Minn., and MOSES BARRON, Minneapolis.

Thursday, June 5—2 p. m.

Election of Officers

Chairman's Address: Some Differences in Actions of the Barbiturates and Thiobarbiturates When Administered to Man and Experimental Animals (Lantern Demonstration).
C. M. GRUBER, Philadelphia.

Some Effects of Potassium Salts in Man (Lantern Demonstration).

N. M. KEITH, A. E. OSTERBERG and H. B. BURCHELL, Rochester, Minn.

Discussion to be opened by M. HERBERT BARKER, Chicago, and J. M. HAYMAN, Cleveland.

Neoarsphenamine in the Therapy of Bacterial Infections (Lantern Demonstration). EDWIN E. OSGOOD, Portland, Ore.

Discussion to be opened by LOUIS N. KATZ, Chicago.

Copper and Iron in Human Blood (Lantern Demonstration).
ADOLPH SACHS, VICTOR E. LEVINE and AGNES SCHMIT, Omaha.

Treatment of Polycythemia Vera with Lead Compounds (Lantern Demonstration).

ERNEST H. FALCONER, San Francisco.
Discussion on papers of DRs. SACHS, LEVINE and SCHMIT and DR. FALCONER to be opened by CARL V. MOORE, St. Louis, and HOWARD L. ALT, Chicago.

The Utilization and Effect of Added Dextrose in Cases of Controlled and Uncontrolled Diabetes (Lantern Demonstration). JAMES A. GREENE and L. W. SWANSON, Iowa City.
Discussion to be opened by H. O. MOSENTHAL, New York.

Therapeutic Effect of Diaminosulfone Glucoside on Experimental Tuberculosis (Lantern Demonstration).
W. H. FELDMAN and H. C. HINSHAW, Rochester, Minn.

Friday, June 6—9 a. m.

JOINT MEETING WITH SECTION ON PRACTICE OF MEDICINE IN BALL ROOM, FOURTH FLOOR, CLEVELAND PUBLIC AUDITORIUM

The "Anoxemia Test" as an Index of the Coronary Reserve: Serial Observations in Patients with Their Application to the Detection and Clinical Course of Coronary Insufficiency (Lantern Demonstration).

ROBERT L. LEVY, JAMES E. PATTERSON, THOMAS W. CLARK and HOWARD G. BRUNN, New York.

Discussion to be opened by ROY W. SCOTT, Cleveland, and ARLIE R. BARNES, Rochester, Minn.

The Sudden Death of Patients with Few Symptoms of Heart Disease (Lantern and Motion Picture Demonstration).

GEORGE V. LEBOY and S. S. SNIDER, Chicago.

Physical Therapy in Internal Medicine (Lantern Demonstration).
GEORGE MORRIS PIERSON, Philadelphia.

Therapeutic Efficiency of a Digitalis Glucoside, Digilanid C, in Congestive Heart Failure with Normal Sinus Rhythm (Lantern Demonstration).

GEORGE E. FAHR and J. S. LA DUE, Minneapolis.
Discussion to be opened by ARLIE R. BARNES, Rochester, Minn.

Chemotherapy of Pneumonias and Immunity Reactions (Lantern Demonstration). JESSE G. M. BULLOWA, New York.
Discussion to be opened by WILLIAM H. KELLEY, Charleston, S. C.; LYNN T. HALL, Omaha; JOHN W. BROWN, San Francisco, and ELMER H. LOUGHLIN, Brooklyn.
Elimination Diets (Lantern Demonstration).

ALBERT H. ROWE, Oakland, Calif.

SECTION ON PATHOLOGY AND PHYSIOLOGY

MEETS IN CLUB ROOM B, THIRD FLOOR, CLEVELAND PUBLIC AUDITORIUM

OFFICERS OF SECTION

Chairman—CARL J. WIGGERS, Cleveland.
Vice Chairman—J. P. SIMONDS, Chicago.
Secretary—J. J. MOORE, Chicago.
Executive Committee—M. B. VISSCHER, Minneapolis; FRANK W. HARTMAN, Detroit; CARL J. WIGGERS, Cleveland.

Wednesday, June 4—9 a. m.

Chairman's Address: The Applicability of Experimental Results to the Shock Problem in Man (Lantern Demonstration). CARL J. WIGGERS, Cleveland.

The Problem of Blood Coagulation. WILLIAM H. HOWELL, Baltimore.
The Applied Physiology of Bile Secretion and Bile Salt Therapy (Lantern Demonstration).

ANDREW C. IVY, Chicago.
The Liver and Medical Progress (Lantern Demonstration).

FRANK C. MANN, Rochester, Minn.
The Hormones of the Adrenal Cortex (Lantern Demonstration).

FRANK A. HARTMAN, Columbus, Ohio.
Cerebral Function in Aviation (Lantern Demonstration).

JOHN F. FULTON, New Haven, Conn.
Contributions of Physiology to Medicine: Electroencephalography (Lantern Demonstration).

HALLOWELL DAVIS, Boston.

Thursday, June 5—9 a. m.

Further Studies on Mesonephroma of the Ovary (Lantern Demonstration). HOWARD W. JONES, Baltimore.

Bronchiogenic Carcinoma: Its Incidence in the Pacific Northwest Together with a Commentary on Eighty-Four Instances in the Department of Pathology at the University of Oregon (Lantern Demonstration).

FRANK R. MENNE, Portland, Ore.
Carcinoma of the Jejunum and Ileum (Lantern Demonstration).

J. SHELTON HORSLEY, Richmond, Va.
Carcinoma of the Prostate: Correlation of Clinical Course with Histopathology (Lantern Demonstration).

NEWTON G. EVANS and ALBERT F. BROWN, Los Angeles.
Factors Influencing Estrogenic Mammary Cancer (Lantern Demonstration). CHARLES F. GESCHICKTER, Baltimore.

Histologic Changes in the Ovary Following Administration of Gonadotropin (Lantern Demonstration).

ROBERT B. GREENBLATT, Augusta, Ga.

Friday, June 6—9 a. m.

Election of Officers

The Advantages and Clinical Uses of Desiccated Plasma Prepared by the Adtevac Process (Lantern and Motion Picture Demonstration). J. M. HILL, Dallas, Texas.

The Role of the External Secretion of the Pancreas in the Prevention of Fatty Infiltration of the Liver (Lantern Demonstration).

M. LAURENCE MONTGOMERY, San Francisco, and I. L. CHAIKOFF, Berkeley, Calif.

Dietary Production of Fatty and Cirrhotic Livers, with a Study of the Specific Factor Involved.

M. A. SPELLBERG and ROBERT W. KEETON, Chicago.
Alimentary Azotemia and the Bleeding Peptic Ulcer Syndrome (Lantern Demonstration).

HENRY N. HARKINS, C. FRANK CHUNN and ROBERT T. BOALS, Detroit.

The Pathogenesis of Hemolytic Anemia (Lantern Demonstration).

WILLIAM DAMESHEK and EDWARD B. MILLER, Boston.

A Concrete Classic Demonstration of Two Separate Specific Immune Phenomena in Tuberculosis (Lantern Demonstration). H. J. CORPER and MAURICE L. COHN, Denver.

Reductions in Blood Pressures of Renal Hypertensive Dogs by Hog Renin (Lantern Demonstration).

G. E. WAKERLIN and C. A. JOHNSON, Chicago.

SECTION ON NERVOUS AND MENTAL DISEASES

MEETS IN LITTLE THEATER, ARENA FLOOR, CLEVELAND PUBLIC AUDITORIUM

OFFICERS OF SECTION

Chairman—TOM B. THROCKMORTON, Des Moines, Iowa.

Vice Chairman—TITUS H. HARRIS, Galveston, Texas.

Secretary—J. M. NIELSEN, Los Angeles.

Executive Committee—FRANCIS C. GRANT, Philadelphia; PAUL C. BUCY, Chicago; TOM B. THROCKMORTON, Des Moines, Iowa.

Wednesday, June 4—2 p. m.

Alcohol and the Food, Drug and Cosmetic Act: A Proposal for Changes in Present Methods of Sale of Alcoholic Beverages to Conform with the Federal Food, Drug and Cosmetic Act.

LEO ALEXANDER, MERRILL MOORE and ABRAHAM MYERSON, Boston.

Discussion to be opened by PHILIP E. PIKER, Cincinnati, and LAWRENCE KOLB, Washington, D. C.

Some Mental Mechanisms in Alcoholism (Lantern Demonstration). F. GARM NORBURY, Jacksonville, Ill.

Discussion to be opened by LLOYD H. ZIEGLER, Wauwatosa, Wis., and G. WILSE ROBINSON JR., Kansas City, Mo.

Chairman's Address (Lantern Demonstration).

TOM B. THROCKMORTON, Des Moines, Iowa.

Fractures of the Spine with Spinal Cord Injury (Lantern Demonstration).

S. BERNARD WORTIS and LEWIS I. SHARP, New York.

Discussion to be opened by F. C. GRANT, Philadelphia, and LEWIS J. POLLOCK, Chicago.

An Evaluation of Emotional Factors in Neurodermatitis (Lantern Demonstration).

MAURICE H. GREENHILL, Durham, N. C., and JACOB E. FINESINGER, Boston.

Discussion to be opened by C. GUY LANE, Boston, and SAMUEL W. BECKER, Chicago.

Neuromuscular Disorders: Results of Vitamin E Therapy (Lantern Demonstration).

C. HUNTER SHELLEN, Pasadena, Calif.

Vitamin E and Alpha-Tocopherol Therapy in Neuromuscular and Muscular Disorders.

RUSSELL N. DEJONG, Ann Arbor, Mich.

Discussion on papers of Drs. SHELLEN and DEJONG to be opened by HENRY W. WOLTMAN, Rochester, Minn., and I. S. WECHSLER, New York.

Thursday, June 5—2 p. m.

PANEL DISCUSSION ON NEUROSURGICAL TREATMENT OF CERTAIN ABNORMAL MENTAL STATES (Lantern and Motion Picture Demonstration)

PAUL C. BUCY, Chicago, Moderator.

WALTER FREEMAN, Washington, D. C.

M. A. TARUMIANZ, Farnhurst, Del.

THEODORE CHARLES ERICKSON, Montreal, Canada.

J. G. LYERLY, Jacksonville, Fla.

H. D. PALMER, Philadelphia.

ROY R. GRINKER, Chicago.

Friday, June 6—2 p. m.

Election of Officers

The Diagnosis and Management of Subarachnoid Hemorrhage (Lantern Demonstration). IRVING J. SANNS, Brooklyn.

Discussion to be opened by J. R. JAEGER, Denver, and W. JAMES GARDNER, Cleveland.

Induction of Metrazol Convulsions Under Nitrous Oxide Anesthesia (Motion Picture Demonstration).

HOWARD D. FABING, Cincinnati.

Discussion to be opened by PHILIP E. PIKER, Cincinnati, and A. E. BENNETT, Omaha.

Spontaneous Convulsions Following Metrazol Treatment (Lantern Demonstration). ERICH LIEBERT, Elgin, Ill.

Discussion to be opened by ROY R. GRINKER, Chicago.

Electrically Induced Convulsions in the Treatment of Functional Disorders (Motion Picture Demonstration).

DAVID JOHN IMPASTATO, New York.

Discussion to be opened by WALTER FREEMAN, Washington, D. C., and S. BERNARD WORTIS, New York.

Diagnostic and Prognostic Value of the Electroencephalogram (Lantern Demonstration). FREDERIC A. GIBBS, Boston.

Discussion to be opened by E. J. Baldes, Rochester, Minn.

Microcystometry and Sphincterometry in the Study and Treatment of Neurologic Diseases (Lantern Demonstration).

IRVING SIMONS, New York.

Discussion to be opened by V. ROGERS DEAKIN, St. Louis, and E. L. BRODIE, Buffalo.

SECTION ON DERMATOLOGY AND SYPHILOLOGY

MEETS IN SOUTH HALL C, FOURTH FLOOR, CLEVELAND
PUBLIC AUDITORIUM

OFFICERS OF SECTION

Chairman—J. GARDNER HOPKINS, New York.

Vice Chairman—EDWARD A. OLIVER, Chicago.

Secretary—C. F. LEHMANN, San Antonio, Texas.

Executive Committee—BEDFORD SHELMIER, Dallas, Texas;
JOHN G. DOWNING, Boston; J. GARDNER HOPKINS, New York.

Wednesday, June 4—2 p. m.

Chairman's Address: The Training of a Dermatologist.

J. GARDNER HOPKINS, New York.

Cancer of the Lower Lip: Review of Three Hundred and Eighteen Cases Treated with Radiation (Lantern Demonstration).

JOHN H. LAMB and WILLIAM E. EASTLAND, Oklahoma City.

Discussion to be opened by JAMES R. DRIVER, Cleveland, and JOHN W. SPELLMAN, Brookline, Mass.

Poikiloderma-like Changes in the Skin Following Arsphenamine Dermatitis (Lantern Demonstration).

A. BENSON CANNON and MARIE B. KARELITZ-KARRY, New York.

Discussion to be opened by CLYDE L. CUMMER and JOHN E. RAUSCHKOLB, Cleveland.

A Comparative Study of Necrobiosis Lipoidica and Granuloma Annulare (Lantern Demonstration).

FRANCIS A. ELLIS, Baltimore, and HAYDEN KIRBY-SMITH, Washington, D. C.

Discussion to be opened by FRED D. WEIDMAN, Philadelphia.

Comparison of Frei Antigens (Lantern Demonstration).

HARRY M. ROBINSON and HARRY M. ROBINSON JR., Baltimore.

Discussion to be opened by HERMAN BEERMAN, Philadelphia.

False Positive Serologic Reactions for Syphilis Due to Small-pox Vaccinations (Vaccinia) (Lantern Demonstration).

FRANCIS W. LYNCH, St. Paul, and ANNE C. KIMBALL and RUTH E. BOYNTON, Minneapolis.

Discussion to be opened by FRANCIS EUGENE SENEAR, Chicago.

Herpes Simplex Following Artificial Fever Therapy: Small-pox Vaccination as a Factor in the Prevention of Herpes Simplex Occurring After Artificial Fever Therapy.

FRANCES M. KEDDIE, R. B. REES JR. and NORMAN N. EPSTEIN, San Francisco.

Discussion to be opened by ARTHUR G. SCHOCH, Dallas, Texas.

Thursday, June 5—2 p. m.

Intraspinal Therapy of Neurosyphilis (Lantern Demonstration).

ROBERT R. KIERLAND and PAUL A. O'LEARY, Rochester, Minn.

Discussion to be opened by HAROLD N. COLE, Cleveland.

Further Experiences with the Massive Dose Chemotherapy of Early Syphilis by the Intravenous Drip Method (Lantern Demonstration).

WILLIAM LEIFER, LOUIS CHARGIN and HAROLD THOMAS HYMAN, New York.

An Evaluation of the Massive Dose Therapy of Syphilis.

D. C. ELLIOTT, Chicago; GEORGE BAEHR, New York; LOREN W. SHAFFER, Detroit, and GLENN S. USHER and S. ALLAN LOUGH, Washington, D. C.

Discussion to be opened by EVAN W. THOMAS, New York, and HERBERT RATNER, Chicago.

Rocky Mountain Spotted Fever (Lantern Demonstration).

JACK G. HUTTON, Denver.
Discussion to be opened by ROBERT J. BAILEY, Spokane, Wash.

Verrucae Planae and Epithelial Nevi (Lantern Demonstration).
MORRIS WAISMAN, Chicago, and HAMILTON MONTGOMERY, Rochester, Minn.

Discussion to be opened by MARCUS RAYNER CARO, Chicago.

Dermatosis Dyskeratoidis (Lantern Demonstration).

SAMUEL B. FRANK and CHARLES R. REIN, New York.

Discussion to be opened by M. H. GOODMAN, Baltimore;

WILLIAM HOWARD HAILEY, Atlanta, Ga., and NELSON

PAUL ANDERSON, Los Angeles.

Friday, June 6—2 p. m.

Election of Officers

Nutritional Dermatoses in Rats: VI. Signs and Symptoms Resulting from an Otherwise Normal Diet Containing Uncooked Egg White as the Sole Source of Protein (Lantern and Motion Picture Demonstration).

MAURICE SULLIVAN and JANE NICHOLLS, Baltimore.

Discussion to be opened by PAUL GYORGY, Cleveland.

Nummular Eczema: Its Clinical Picture and Successful Therapy (Lantern Demonstration).

PAUL GROSS, New York.

Discussion to be opened by SAMUEL W. BECKER, Chicago.

Rational Prescription Writing in Dermatology.

HERMAN GOODMAN, New York.

Discussion to be opened by TORALD H. SOILMANN, Cleveland.

Xanthoma Tuberosum: Report of a Family with Cutaneous Xanthomatosis, Hypercholesteremia, Cardiac Symptoms and Sudden Death, Combined or Alone in Several Members; Report of Autopsy in One.

DAVID BLOOM, New York, and SAMUEL R. KAUFMAN and RUSSELL A. STEVENS, Wilkes-Barre, Pa.

Discussion to be opened by THEODORE CORNBLEET, Chicago.

Hormone Therapy in Tinea Capitis (Lantern Demonstration).

DUNCAN O. POTI and SIDNEY R. KALISKI, San Antonio, Texas.

Discussion to be opened by GEORGE M. LEWIS, New York.

SECTION ON PREVENTIVE AND INDUS- TRIAL MEDICINE AND PUBLIC HEALTH

MEETS IN SOUTH HALL A, SECOND FLOOR, CLEVELAND
PUBLIC AUDITORIUM

OFFICERS OF SECTION

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Vice Chairman—HUNTINGTON WILLIAMS, Baltimore.

Secretary—W. A. SAWYER, Rochester, N. Y.

Executive Committee—I. C. RIGGIN, Richmond, Va.; HAROLD S. DIEHL, Minneapolis; CLARENCE D. SELBY, Detroit.

Wednesday, June 4—9 a. m.

Methods by Which the State Participates in Health Services.
JOSEPH W. MOUNTIN, Washington, D. C.

A Clinical Analysis of Fifteen Thousand Cases of Pneumonia: An Evaluation of the Effectiveness of Various Therapeutic Agents (Lantern Demonstration).

DALE C. STAHL, Harrisburg, Pa.

Correlation of Roentgenographic and Pathologic Observations in Pneumoconiosis (Lantern Demonstration).

LEWIS GREGORY COLE, White Plains, N. Y.

Tuberculosis Among Nursing Students at the Philadelphia General Hospital (Lantern Demonstration).

HAROLD L. ISRAEL, Philadelphia.

A Practical and Successful Tuberculosis Case-Finding Program for Nonmetropolitan Areas.

THEODORE L. BLISS, Akron, Ohio.

Thursday, June 5—9 a. m.

Election of Officers

Chairman's Address.

CLARENCE D. SELBY, Detroit.

The Environmental Control of Epidemic Contagion. Study I: Schools.

W. F. WELLS, M. W. WELLS and T. S. WILDER, Philadelphia.

Recent Investigations on Gonococcal Vaginitis (Lantern Demonstration).

JOHN L. RICE, ALFRED COHN, ARTHUR STEER and ELEANOR L. ADLER, New York.

Interns and Their Health (Lantern Demonstration).

REGINALD FITZ, Boston.

Occupational Hazards of the Business Executive (Lantern Demonstration). EDGAR V. ALLEN, Rochester, Minn.

U. S. Government Meat Inspection After a Third of a Century (Motion Picture Demonstration).

W. H. LIPMAN, Chicago.

Friday, June 6—9 a. m.

JOINT MEETING WITH SECTION ON PEDIATRICS

HAVEN EMERSON, New York, Chairman.

School Health Policies. CHARLES C. WILSON, Hartford, Conn.

Uses and Abuses of School Physical Examinations.

BENJAMIN M. SPOCK, New York.

Eye Examinations in Public Schools (Lantern Demonstration).

HARRY S. GRADLE, Chicago.

Communicable Disease Control.

GEORGE M. WHEATLEY, Plandome, Long Island, N. Y.

SECTION ON UROLOGY

MEETS IN SOUTH HALL C, FOURTH FLOOR, CLEVELAND
PUBLIC AUDITORIUM

OFFICERS OF SECTION

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Wednesday, June 4—9 a. m.

Cytometry: Its Value and Limitations.

MICHAEL K. O'HEERON, Houston, Texas.

Bladder Difficulties in the Tabetic Patient with Special Reference to Surgical Treatment by Transurethral Resection.

JOHN L. EMMETT and J. B. BEARE, Rochester, Minn.

Discussion to be opened by WILLIAM P. HERBST, Washington, D. C.; HERBERT ELLIS LANDES, Chicago, and DALTON KEATS ROSE, St. Louis.

The Physiologic Basis of the Neurogenic Bladder (Lantern Demonstration).

JOSEPH P. EVANS, Cincinnati.

Presacral Neurectomy: Its Value and Limitations (Lantern Demonstration).

CARLISLE F. SCHROEDER, Detroit.

Surgical Treatment of the Autonomous Neurogenic Bladder (Lantern Demonstration).

REED M. NESBIT and WILLIAM G. GORDON, Ann Arbor, Mich.

Discussion to be opened by DEAN LEWIS, Baltimore, and JAMES JOEL JOELSON, Cleveland.

Thursday, June 5—9 a. m.

Chairman's Address (Lantern Demonstration).

MEREDITH F. CAMPBELL, New York.

Juvenile Hypertension in Association with Congenital and Inflammatory Lesions of the Upper Urinary Tract (Lantern Demonstration).

JOHN H. POWERS and M. F. MURRAY, Cooperstown, N. Y.

Discussion to be opened by LEO PATRICK DOLAN, Toledo, Ohio.

Fibrosis and Submucous Calcification of the Vesical Neck (Lantern Demonstration).

GEORGE M. FISTER, Ogden, Utah.

Discussion to be opened by HERBERT BEACH WRIGHT, Cleveland.

Methods and Ultimate Results in the Treatment of Tumors of the Bladder.

HUGH H. YOUNG, Baltimore.

Discussion to be opened by ARCHIE L. DEAN JR., New York; WILLIAM E. LOWER, Cleveland, and A. J. SCHOLL, Los Angeles.

The Surgical Treatment of Prostatic Disease (Lantern Demonstration).

ROY B. HENLINE, New York.

Discussion to be opened by HARRY CULVER, Chicago, and HERMON C. BUMPUS JR., Pasadena, Calif.

Renal Sympathectomy: An Evaluation of Fifteen Years' Experience (Lantern Demonstration).

ELMER HESS, Erie, Pa.

Discussion to be opened by THOMAS POLLOCK SHUPE, Cleveland, and FREDERIC E. B. FOLEY, St. Paul.

Friday, June 6—9 a. m.

Election of Officers

The Use of P-Sulfanil-Acetyl-Imide in the Treatment of E. Coli Urinary Tract Infections (Lantern Demonstration).

ROGER W. BARNES and FERDINAND WELEBIR, Los Angeles.

The Chemotherapy of Gonorrheal Urethritis (Lantern Demonstration).

WILLIAM BROMME, Detroit.

Discussion to be opened by EDWARD NOBLE COOK, Rochester, Minn., and EDWIN PASCAL ALYEA, Durham, N. C.

Modern Urologic Pharmacology (Lantern Demonstration).

J. SYDNEY RITTER, New York, and SAMUEL E. KRAMER, Perth Amboy, N. J.

The Clinical Value of the Aschheim-Zondek Test in Testicular Tumors (Lantern Demonstration).

GRAY H. TWOMBLY, HAROLD L. TEMPLE and ARCHIE L. DEAN JR., New York.

Discussion to be opened by RUSSELL D. HERROLD, Chicago.

The Principle of Traction in the Treatment of Ureteral Stone.

ROY PELHAM FINNEY, Spartanburg, S. C.

Discussion to be opened by WALTER M. KEARNS, Milwaukee, and JOHN H. MORRISSEY, New York.

The Value of Cystoscopic Photography in Medicine (Lantern Demonstration).

LOWRAIN E. MCCREA, Philadelphia.

Discussion to be opened by FLETCHER H. COLBY, Boston.

SECTION ON ORTHOPEDIC SURGERY

MEETS IN LITTLE THEATER, ARENA FLOOR, CLEVELAND
PUBLIC AUDITORIUM

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Executive Committee—OSCAR L. MILLER, Charlotte, N. C.; ROBERT V. FUNSTEN, Charlottesville, Va.; J. ALBERT KEY, St. Louis.

Wednesday, June 4—9 a. m.

Leg Shortening (Lantern Demonstration). M. BECKETT HOWORTH, New York.

Discussion to be opened by FREMONT A. CHANDLER, Chicago, and ALLEN F. VOSHELL, Baltimore.

Roentgen Therapy for Rhizomelic Spondylitis, from the Rackham Arthritis Research Unit, and the Department of Radiology, the Medical School, University of Michigan (Lantern and Motion Picture Demonstration).

CHARLEY J. SMYTH, RICHARD H. FREYBERG and ISADORE LAMPE, Ann Arbor, Mich.

Discussion to be opened by BERNARD I. COMROE, Philadelphia, and CARL E. BADGLEY, Ann Arbor, Mich.

Benign and Malignant Giant Cell Tumors: Diagnosis and Result of Treatment (Lantern Demonstration).

HENRY W. MEYERDING, Rochester, Minn.

Discussion to be opened by MURRAY M. COPELAND, Baltimore, and DALLAS B. PHENISTER, Chicago.

Neck Pain: Laminography as an Aid to the Diagnosis of Atlanto-Occipital Lesions (Lantern Demonstration).

FREDERICK A. JOSTES, St. Louis.

Discussion to be opened by SHERWOOD MOORE, St. Louis, and JESSE T. NICHOLSON, Philadelphia.

Vitallium Cup Arthroplasty of the Hip: A Preliminary Report on the Results in Sixteen Patients with Nineteen Arthroplasties (Lantern Demonstration).

LENOX D. BAKER and CHESTER H. WATERS JR., Durham, N. C.

Discussion to be opened by MARIUS N. SMITH-PETERSEN, Boston, and THEODORE A. WILLIS, Cleveland.

Operative Treatment of Cerebral Palsy of Spastic Type (Lantern Demonstration).

WILLIAM T. GREEN and LEO J. McDERMOTT, Boston.

Discussion to be opened by BEVERIDGE H. MOORE, Chicago, and MANUEL E. PUSITZ, Topeka, Kan.

Thursday, June 5—9 a. m.

Election of Officers

Occult Fractures (Lantern Demonstration).

ROLAND HAMMOND, Providence, R. I., and DENIS S. O'CONNOR, New Haven, Conn.

Discussion to be opened by WALTER C. HILL, Cleveland, and CHARLES N. PEASE, Chicago.

The Choice of Materials for Internal Fixation of Fractures of the Neck of the Femur (Lantern Demonstration).

EDWARD L. COMPERE, Chicago, and GEORGE T. WALLACE, Spokane, Wash.

Discussion to be opened by AUSTIN T. MOORE, Columbia, S. C., and RUDOLPH S. REICH, Cleveland.

Chairman's Address: The Use of Sulfanilamide and Sulfathiazole in Orthopedic Surgery (Lantern Demonstration).

J. ALBERT KEY, St. Louis.

Shoulder and Elbow Lesions of the Professional Baseball Pitcher (Lantern Demonstration).

GEORGE E. BENNETT, Baltimore.

Discussion to be opened by FRANK D. DICKSON, Kansas City, Mo., and CHARLES A. STONE, St. Louis.

The Supraspinatus Syndrome: Symptomatology, Pathology and Repair (Lantern Demonstration).

DAVID M. BOSWORTH, New York.

Discussion to be opened by I. WILLIAM NACHLAS, Baltimore, and JOSEPH J. KURLANDER, Cleveland.

The Treatment of Acute Osteomyelitis by Sulfathiazole Without Operation (Lantern Demonstration).

WALTER A. HOYT and ADRIAN E. DAVIS, Akron, Ohio.

Discussion to be opened by RICHARD B. RANEY, Durham, N. C., and ABRAHAM O. WILENSKY, New York.

Friday, June 6—9 a. m.

JOINT MEETING WITH THE SECTION ON SURGERY,
GENERAL AND ABDOMINAL

The Mechanism of Delayed Wound Healing in the Presence of Hypoproteinemia (Lantern Demonstration).

JONATHAN E. RHOADS and M. T. FLIEGELMAN, Philadelphia.

Discussion to be opened by I. S. RAVDIN, Philadelphia, and CHARLES G. JOHNSTON, Detroit.

Similarities and Distinctions Between Shock and the Effects of Hemorrhages (Lantern Demonstration).

VIRGIL H. MOON, D. R. MORGAN, M. M. LIEBER and DONALD J. MCGREW, Philadelphia.

Discussion to be opened by LESTER R. DRAGSTEDT, Chicago.

Traumatic Rupture of the Intestine Due to Nonpenetrating Wounds of the Abdomen (Lantern Demonstration).

D. HENRY POER and IRA A. FERGUSON, Atlanta, Ga., and EDWARD WOLIVER, Cincinnati.

Fresh Compound Fractures: Treatment by Sulfa-Drugs and by Internal Fixation in Selected Cases (Lantern Demonstration).

WILLIS C. CAMPBELL and HUGH SMITH, Memphis, Tenn.

Discussion to be opened by WALTER G. STERN, Cleveland, and HAROLD R. BOHLMAN, Baltimore.

The Splinting of Compound Fractures (Lantern Demonstration).

FRANK J. COX, New Orleans.

Discussion to be opened by PHILIP D. WILSON, New York, and ROGER ANDERSON, Seattle.

Chemotherapy in the Treatment of Compound Fractures (Lantern and Motion Picture Demonstration).

REX L. DIVELEY, Kansas City, Mo.

Discussion to be opened by FRANCIS M. MCKEEVER, Los Angeles, and ROBERT W. JOHNSON JR., Baltimore.

**SECTION ON GASTRO-ENTEROLOGY
AND PROCTOLOGY**

MEETS IN SOUTH HALL A, SECOND FLOOR, CLEVELAND
PUBLIC AUDITORIUM

OFFICERS OF SECTION

Chairman—FRANK C. YEOMANS, New York.

Vice Chairman—WALTER L. PALMER, Chicago.

Secretary—J. A. BARGEN, Rochester, Minn.

Executive Committee—DESCUM C. MCKENNEY, Buffalo; A. H. AARON, Buffalo; FRANK C. YEOMANS, New York.

The annual banquet of the section will be held on Wednesday, June 4, 7 p. m., at the Hotel Cleveland.

Wednesday, June 4—2 p. m.

SYMPOSIUM ON MOUTH LESIONS

Halitosis (Lantern Demonstration).

BURRILL BERNARD CROHN, New York.

Lesions of the Mouth Associated with Deficiency Diseases (Lantern Demonstration).

LOUIS A. ROSENBLUM, New York.

Observations on Human Dental Caries (Lantern Demonstration).

BENJAMIN F. MILLER, Chicago.

Discussion to be opened by THOMAS T. MACKIE, New York.

**PANEL DISCUSSION ON DRUG THERAPY IN
THE ALIMENTARY TRACT**

SARA M. JORDAN, Boston, Chairman.

Control of Gastrointestinal Function by Centrally Acting Drugs (Lantern Demonstration).

DONALD H. SLAUGHTER, Dallas, Texas.

Control of Gastrointestinal Function by Drugs Acting Peripherally (Lantern Demonstration).

HARRY GOLD, New York.

Harmful Effects of Mineral Oil Purgatives.

JAMES W. MORGAN, San Francisco.

The Chemotherapy of Intestinal Parasites.

ERNEST CARROLL FAUST, New Orleans.

Thursday, June 5—2 p. m.

Chairman's Address. Proctology: Its Field and Qualifications.
FRANK C. YEOMANS, New York.

LESIONS OF THE RECTUM AND LARGE INTESTINE

Morbidity and Mortality After Resections of the Rectum (Lantern Demonstration).

MONTAGUE S. WOOLF, San Francisco.

Squamous Cell Carcinomas of the Anorectal Region (Lantern Demonstration).

JACK G. KERR, Dallas, Texas.

The Colostomy Question (Lantern Demonstration).

LOUIS J. HIRSCHMAN, Detroit.

Discussion to be opened by NEIL W. SWINTON, Boston; G. JOHNSON HAMILTON, New York; CLEMENT L. MARTIN, Chicago; DESCUM C. MCKENNEY, Buffalo; THOMAS E. JONES, Cleveland; WILLIAM H. DANIEL, Los Angeles, and C. ALEXANDER HELLWIG, Wichita, Kan.

Resection of the Right Colon for Nonspecific Ileocolitis (Lantern Demonstration).

CHARLES W. MAYO and EDWARD STARR JUDD JR., Rochester, Minn.

Discussion to be opened by MAX THOREK, Chicago.

Studies on Lymphopathia Venereum Infections of the Rectum (Lantern Demonstration).

ENID RODANICHE, JOSEPH BARNETT KIRSNER and WALTER L. PALMER, Chicago.

Discussion to be opened by HERBERT T. HAYES, Houston, Texas, and MOSES PAULSON, Baltimore.

Clinical Summary of the Management of Nine Hundred and Twelve Cases of Chronic Ulcerative Colitis (Lantern Demonstration).

MICHAEL H. STRICHER, Chicago.

Discussion to be opened by MARTIN S. KLECKNER, Allentown, Pa.; ZACHARIAS BERCOVITZ, New York; ISAAC R. JANKELSON, Boston, and ASHER WINKELSTEIN, New York.

Friday, June 6—2 p. m.

Election of Officers

The History of Vitamin C Deficiency in the South African Native (Lantern Demonstration).

HAROLD O. HOFMEYER, Capetown, Union of South Africa.

STUDIES ON THE STOMACH

Clinical Appraisal of Various Methods of Treating Bleeding Peptic Ulcer, Based on a Series of Four Hundred Cases (Lantern Demonstration).

HENRY A. RAFSKY and MICHAEL WEINGARTEN, New York.

Intractable Peptic Ulcers: Are They a Surgical or a Medical Problem (Lantern Demonstration)?

ALBERT F. R. ANDRESEN, Brooklyn.

Carcinomatous Gastric Ulcer: Misleading Results of Medical Therapy (Lantern Demonstration).

GEORGE B. EUSTERMANN, Rochester, Minn.
Discussion to be opened by NATHANIEL E. REICH, Brooklyn; JOHN DAY GARVIN, Pittsburgh; JAMES F. WEIR, Rochester, Minn.; SARA M. JORDAN, Boston, and JOHN G. MATEER, Detroit.

Kaolin Granuloma of the Stomach (Lantern Demonstration).

ALLAN L. COHN, ALFRED S. WHITE and HELEN B. S. WEYRAUCH, San Francisco.

Clinical Indications for Inducing Gastric Hypomotility (Lantern Demonstration).

FRANK E. HAMILTON and GEORGE MORRIS CURTIS, Columbus, Ohio.

Discussion to be opened by ANDREW C. IVY, Chicago, and DAVID J. SANDWEISS, Detroit.

Gastroscopic Studies in Chronic Alcoholic Addicts: Report of One Hundred Cases (Lantern Demonstration).

LEONIDAS H. BERRY, Chicago.

SECTION ON RADIOLOGY

MEETS IN SOUTH HALL B, THIRD FLOOR, CLEVELAND
PUBLIC AUDITORIUM

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Chairman—RAYMOND C. BEELER, Indianapolis.

Vice Chairman—RALPH S. BROMER, Bryn Mawr, Pa.

Secretary—JOHN T. MURPHY, Toledo, Ohio.

Executive Committee—R. G. TAYLOR, Los Angeles; MERRILL C. SOSMAN, Boston; RAYMOND C. BEELER, Indianapolis.

Wednesday, June 4—2 p. m.

The Roentgen Diagnosis of the Primary Tuberculous Infection (Lantern Demonstration).

C. C. BIRKELO, Detroit.

Treatment of Childhood Tuberculosis (Lantern Demonstration).

HORTON R. CASPARIS, Nashville, Tenn.

Advantages of Permanent Collapse Therapy in Pulmonary Tuberculosis (Lantern Demonstration).

RICHARD H. OVERHOLT, Brookline, Mass.

Gallstone Obstruction: Pathogenesis and Roentgen Manifestations (Lantern Demonstration).

LEO G. RIGLER and CHAUNCEY N. BORMAN, Minneapolis, and JOHN F. NOBLE, St. Paul.

The Effect of Roentgen Irradiation of the Epiphysis of the Albino Rat (Lantern Demonstration).

JAMES R. LINGLEY, EDWARD A. GALL and JOSEPH S. BARR, Boston.

Thursday, June 5—2 p. m.

Chairman's Address. RAYMOND C. BEELER, Indianapolis.

Relation of Vitamins to the Intestinal Tract.

THOMAS T. MACKIE, New York.

The Small Intestine in Vitamin B Deficiency (Lantern Demonstration).

ROSS GOLDEN, New York.

A Syndrome Due to Deficiency of the Vitamin B Complex (Lantern Demonstration).

MICHAEL J. LEPORE, New York.

Tumefactive Lesions of the Small Intestine (Lantern Demonstration).

C. ALLEN GOOD, Rochester, Minn.

Discussion to be opened by EUGENE P. PENDERGRASS, Philadelphia.

Friday, June 6—2 p. m.

Election of Officers**Postirradiation Changes in the Levels of Organic Phosphorus in the Blood of Patients with Leukemia (Lantern Demonstration).**

JULIUS B. ABELS, JOHN S. KENNEY and L. D. MARI-NELLI, New York.

Radiation Protection in Forty-Five Hospitals (Lantern Demonstration).

LEONARD A. SCHEELE and DEAN B. COWIE, Bethesda, Md.

Results of Radium Treatment of Cancer of the Uterine Fundus with Special Reference to the Microscopic Grade of the Lesion (Lantern Demonstration).

ROBERT E. FRICKE and CHARLES O. HEILMAN, Rochester, Minn.

Radiation Therapy in Carcinoma of the Lung (Lantern Demonstration).

WILLIAM V. TENZEL, New York.

The Influence of Radiation on Longevity in Cancer of the Breast (Lantern Demonstration).

ORVILLE N. MELAND, Los Angeles.

SECTION ON ANESTHESIOLOGY

MEETS IN SOUTH HALL B, THIRD FLOOR, CLEVELAND
PUBLIC AUDITORIUM

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Vice Chairman—T. J. COLLIER, Atlanta, Ga.

Secretary—JOHN S. LUNDY, Rochester, Minn.

Executive Committee—JOHN H. EVANS, Buffalo; H. S. RUTH, Merion, Pa.; RALPH M. WATERS, Madison, Wis.

Wednesday, June 4—9 a. m.

Communications and Congratulations to the New Section Read by the Vice Chairman and the Secretary of the Section. Greetings.

FRANK H. LAHEY, Boston, Incoming President, American Medical Association; NATHAN B. VAN ETTEN, New York, Past President; ARTHUR W. BOOTH, Elmira, N. Y., Chairman, Board of Trustees; H. H. SHOUL-DERS, Nashville, Tenn., Speaker, House of Delegates; JAMES E. PAULLIN, Atlanta, Ga., Chairman, Council on Scientific Assembly; OLIN WEST, Chicago, Secretary and General Manager, and MORRIS FISHBEIN, Chicago, Editor, THE JOURNAL.

The Men Who Discovered Anesthesia (Lantern Demonstration).

WALTER C. ALVAREZ, Rochester, Minn.

Discussion to be opened by JOHN H. EVANS, Buffalo, and ANSEL M. CAINE, New Orleans.

History and Present Status of Oxygen Therapy and Resuscitation (Lantern Demonstration).

RALPH M. TOVELL and JOSEPH E. REMLINGER, Hartford.

Discussion to be opened by ALVAN L. BARACH, New York, and FREDERICK A. D. ALEXANDER, Albany, N. Y.

The Volatile Anesthetics: Ether, Divinyl Ether, Chloroform and Ethyl Chloride.

H. BOYD STEWART, Tulsa, Okla.

Discussion to be opened by SAMUEL JOHNSTON, Toronto, Canada, and PALUEL J. FLAGG, New York.

Thursday, June 5—9 a. m.

Chairman's Address: The Chemical Absorption of Carbon Dioxide from Anesthetic Atmospheres (Lantern Demonstration). RALPH M. WATERS, Madison, Wis.

Anesthesia for Military Needs.

ACHILLES L. TYNES, Washington, D. C.; WILLIAM W. NICHOL, San Francisco, and SIDNEY C. WIGGIN, Boston.

Discussion to be opened by GEORGE W. CRILE, Cleveland, and DOUGLAS B. KENDRICK, Washington, D. C.

Anesthesia for Surgery About the Head (Lantern Demonstration).

URBAN H. EVERSOLE, Boston.

Discussion to be opened by FREDERICK W. CLEMENT, Toledo, Ohio, and B. BURDELL SANKEY, East Cleveland, Ohio.

Intravenous Anesthesia.

PAUL W. SEARLES, Buffalo.

Discussion to be opened by ROLLAND J. WHITACRE, East Cleveland, Ohio, and GEORGE J. THOMAS, Pittsburgh.

Anesthesia and Analgesia by Ether and Various Drugs Rectally (Lantern Demonstration).

JAMES T. GWATHMEY, Donna, Texas.

Discussion to be opened by GEORGE H. SEMKEN and PAUL M. WOOD, New York.

Friday, June 6—9 a. m.

Election of Officers

Therapeutic Nerve Block. EMERY A. ROVENSTINE, New York.

Discussion to be opened by CHARLES F. MCCUSKEY, Glendale, Calif., and BRIAN C. SWORD, New York.

Serial Spinal Anesthesia (Lantern Demonstration).

HENRY S. RUTH, Merion Station, Pa., and IVAN B. TAYLOR and FREDERICK P. T. HAUGEN, Philadelphia.

Discussion to be opened by WILLIAM T. LEMMON, Philadelphia, and PHILIP D. WOODBRIDGE, New Haven, Conn.

Effects on Respiration of Morphine, Atropine and Scopolamine Alone and Combined (Lantern Demonstration).

CLAYTON P. WANGEMAN and MALCOLM H. HAWK, Madison, Wis.

Discussion to be opened by DENNIS E. JACKSON, Cincinnati, and RALPH T. KNIGHT, Minneapolis.

An Apparatus for the Automatic Recording of Diastolic and Systolic Blood Pressure in Clinical Practice (Lantern Demonstration).

HARVEY C. SLOCUM, Madison, Wis.

Discussion to be opened by CLAUDE S. BECK, Cleveland, and JOHN K. POTTER, East Cleveland, Ohio.

Effect of Certain General Anesthetic Agents on the Small Vessels of the Rabbit's Ear (Lantern Demonstration).

THOMAS H. SELDON, Rochester, Minn.

Discussion to be opened by ELIOT R. CLARK, Philadelphia, and EDGAR V. ALLEN, Rochester, Minn.

THE SCIENTIFIC EXHIBIT

The Scientific Exhibit will occupy the Arena Floor of the Cleveland Public Auditorium.

In addition to groups of exhibits sponsored by the sections of the Scientific Assembly, there will be several features of interest. The Board of Trustees has authorized two special exhibits—fractures and lame backs. Emphasis is placed on national defense and war medicine, and there will be a group of exhibits dealing with these subjects. Among other items of interest, there will be a group of exhibits on heart disease by the Section on Practice of Medicine, a group of exhibits on the treatment of burns by the Section on Surgery, General and Abdominal, and a group of exhibits on air-borne infections by the Section on Pediatrics.

Motion pictures will be shown on regular schedules in six rooms adjoining the exhibits.

Admission to the Scientific Exhibit will be limited to persons wearing Fellowship or other badges of the convention and to guests to whom special cards of admission have been issued. The public will not be admitted to the Scientific Exhibit.

Special Exhibit on Fractures

The special exhibit on fractures is continued again under the auspices of the same committee which has conducted the exhibit for the past several years:

Kellogg Speed, Chicago, chairman.
Frank D. Dickson, Kansas City, Mo.
Walter Estell Lee, Philadelphia.

The following subjects will be considered:

1. Plaster of Paris: Making and Storing.
2. Application of Plaster of Paris.
3. Fracture of the Lower End of the Radius.
4. Fracture of the Spine—Compression.
5. Fracture of the Ankle.
6. Emergency Treatment of Fractures of the Lower Extremities.

Dr. Carl H. Lenhart, Cleveland, is local representative for the fracture exhibit.

The following physicians will take part in the demonstration:

John D. Adams, Boston.	Walter D. Ludlum Jr., New York.
H. O. Anderson, Wichita, Kan.	James W. Martin, Omaha.
C. Glenn Barber, Cleveland.	Arthur R. Metz, Chicago.
S. Potter Bartley, Brooklyn.	John R. Nilsson, Omaha.
W. A. Boyd, Columbia, S. C.	R. J. Noer, Detroit.
Ralph G. Carothers, Cincinnati.	D. H. O'Donoghue, Oklahoma City.
Ralph Merle Carter, Green Bay, Wis.	E. Payne Palmer, Phoenix, Ariz.
Dwight F. Clark, Evanston, Ill.	Garrett Pipkin, Kansas City, Mo.
George J. Curry, Flint, Mich.	Lynn M. Rankin, Upper Darby, Pa.
P. C. Doran, Akron, Ohio.	Rudolph S. Reich, Cleveland.
C. Fred Ferciot, Lincoln, Neb.	Sheppard Remington, Chicago.
Ralph E. Goodall, New York.	Samuel L. Robbins, Cleveland.
G. E. Haggart, Boston.	L. D. Smith, Milwaukee.
Roland Hammond, Providence, R. I.	Alexander M. Steinfeld, Columbus, Ohio.
Vernon L. Hart, Minneapolis.	Russell F. Sullivan, Boston.
Frederick A. Jostes, St. Louis.	Charles F. Thompson, Indianapolis.
Graham A. Kernwein, Chicago.	James R. Tillotson, Lima, Ohio.
Orville C. King, Philadelphia.	James W. Toumey, Boston.
Henry B. Lacey, Columbus, Ohio.	H. W. Virgin Jr., Pensacola, Fla.
Stanley E. Lawton, Chicago.	James M. Winfield, Detroit.
James R. Lincoln, New York.	Harry Winkler, Charlotte, N. C.

Special Exhibit on Lame Backs

The special exhibit on lame backs is presented for the second time under the auspices of an exhibit committee composed of:

Frank R. Ober, Boston, chairman.
Carl E. Badgley, Ann Arbor, Mich.
J. Archer O'Reilly, St. Louis.
Arthur Steindler, Iowa City.
Philip D. Wilson, New York.

An advisory committee is composed of:

Eben J. Carey, Milwaukee.	Philip Lewin, Chicago.
Fremont A. Chandler, Chicago.	Robert D. Schrock, Omaha.
H. Earle Conwell, Birmingham, Ala.	Theodore Willis, Cleveland.
John S. Coulter, Chicago.	E. Harlan Wilson, Columbus, Ohio.
Albert Ferguson, Brookline, Mass.	Walter J. Zeiter, Cleveland.

The exhibit deals with the following factors:

Anatomy.	Roentgenology.
Pathology.	Physical therapy.
Examination of lame backs.	Apparatus.
Neurology.	

A competent corps of demonstrators will be present continuously throughout the week, among whom will be the following:

C. Glenn Barber, Cleveland.	Henry B. Lacey, Columbus, Ohio.
Albert L. Bershon, Toledo.	Raymond E. Lenhard, Baltimore, Md.
A. H. Brewster, Boston.	C. S. Lowendorf, Youngstown, Ohio.
Herbert L. Brumbaugh, Dayton, Ohio.	Wilbert H. McGaw, Cleveland.
F. H. Clark, Cleveland.	Madge C. L. McGuinness, New York.
Clyde W. Dawson, Columbus, Ohio.	Alexander Miller, Cleveland.
Earl C. Elkins, Rochester, Minn.	Louis E. Papurt, Cleveland.
Frank H. Ewerhardt, St. Louis.	Robert L. Patterson, Jr., New York.
C. Fred Ferciot, Lincoln, Neb.	Maurice M. Pike, Hartford, Conn.
Joseph A. Freiberg, Cincinnati.	Frank N. Potts, Buffalo, N. Y.
Kristian G. Hansson, New York.	Fowler B. Roberts, Akron, Ohio.
Maxwell Harbin, Cleveland.	Louis M. Starin, Lakewood, Ohio.
R. Nelson Hatt, Springfield, Mass.	Milton G. Schmitt, Chicago.
Clarence H. Heyman, Cleveland.	James E. M. Thomson, Lincoln, Neb.
W. Richard Hochwalt, Dayton, Ohio.	Theodore H. Vinke, Cincinnati.
Louis G. Howard, Boston.	Edward T. Wentworth, Rochester, N. Y.
M. Beckett Howorth, New York.	Harry Winkler, Charlotte, N. C.
Herman F. Johnson, Omaha, Neb.	Walter Zeit, Milwaukee, Wis.
H. W. Kendall, Dayton, Ohio.	
Samuel Kleinberg, New York.	
Richard Kovacs, New York.	
Charles Kubik, Boston.	

Exhibits on National Defense and War Medicine

Most of the exhibits shown at the Cleveland session have a more or less direct relation to national defense or war medicine. The point is emphasized by grouping the following list:

GORDON B. NEW and JOHN B. ERICH, Mayo Clinic, Rochester, Minn.:

Treatment of Traumatic Injuries of the Face: Exhibit demonstrates by means of models, casts and colored lantern slides the various surgical procedures employed in the treatment of traumatic injuries of the face, including not only the mechanical and surgical methods of reducing and immobilizing all types of fractures of the mandible, maxilla and malar and nasal bones, but also the secondary reconstructive procedures required in the correction of residual bony deformities.

SAMUEL B. HARPER and A. E. OSTERBERG, Mayo Clinic, Rochester, Minn.:

A Simple Method of Preparing Dried Blood Plasma and Its Clinical Use: Exhibit of (1) apparatus used for drying the human plasma; (2) samples of the dried plasma and of the solution of plasma residue as used clinically, and (3) charts representing data obtained from clinical material when solutions of the dried plasma proteins were used.

JOSEPH M. HILL, E. E. MUIRHEAD, C. E. ASHWORTH and LOUIS WATERS, Baylor University Hospital, Dallas, Texas:

Mass Production of Desiccated Plasma and Its Clinical Use in Hypertonic Solution: Exhibit showing actual operation of a plasma center where the plasma is separated, filtered and dehydrated from the frozen state and the desiccated plasma introduced and vacuum sealed in containers.

ROBERT A. BIER and L. G. ROWNTREE, Medical Division, National Headquarters, Selective Service System, Washington, D. C.:

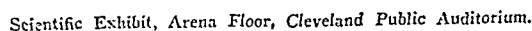
The Medical Function—National Selective Service System: Exhibit of charts, printed forms and tables of figures describing the work of the Medical Division at National Headquarters, Selective Service System, and also the medical function in the various states incident to the examination of registrants.

FRANK W. HARTMAN, Henry Ford Hospital, Detroit:

Separation and Desiccation of Blood Plasma with Cellophane Cylinders: Exhibit showing details of method for collection, separation and desiccation of blood plasma with the use of

The Effect of Anoxia in Altitude Flights to 20,000 Feet on the Electrocardiogram: Exhibit showing (a) representative four

Origin and Early History of the Microscope: Exhibit of originals of several early microscopes, with models of other famous early microscopes; books on microscopes and early microscopists (Malpighi, Hooke, Swammerdam, Green, Leeuwenhoek and others), with explanatory charts and photographs.



Elimination Diets for the Study of Food Allergy: Exhibit showing the value of elimination diets for diet trial in patients suspected of food allergy by selected case histories; the fallibility of the cutaneous test on patients with known sensitizations to foods; charts showing the elimination diets used in the majority of patients, the fruit-free diet for fruit sensitive patients, the low calory elimination diet for obese and diabetic

patients with food allergy, elimination diets to be eaten in restaurants or away from home, and various supplemental elimination diets.

J. WARRICK THOMAS and C. R. K. JOHNSTON, Cleveland Clinic, Cleveland:

Allergy: Cutaneous Manifestation and Rectal Sensitization Studies: Exhibit of wax models of allergic lesions involving the skin and mucous membranes; models of proctoscopic sensitization studies showing the reaction of the mucous membrane following the application of an allergen.

HENRY H. TURNER, REX BOLEND, W. FLOYD KELLER and WAYNE HULL, University of Oklahoma School of Medicine, Oklahoma City:

Clinical Use of Testosterone Propionate: Exhibit of photographs illustrating before and after effects of testosterone propionate in the treatment of hypogonadism, benign prostatic hypertrophy and gynecomastia and the effect of this hormone on skeletal maturation, together with remarks stating types of patients and conditions in which testosterone may be used effectively, and warning against its use in preadolescence, psychic impotence, and the promiscuity of its administration to females.

JOHN D. CURRENCE, A. D. TANNEY and R. W. FINEGAN, New York Post-Graduate Medical School and Hospital:

Physical Therapy in Arthritis: Exhibit of roentgenograms accompanied by clinical photographs, descriptions and photographs and diagrams of the type of physical therapy employed, demonstrating the various physical therapeutic modalities employed in the treatment of arthritis.

WILLARD O. THOMPSON and NORRIS J. HECKEL, Rush Medical College and Presbyterian Hospital, Chicago:

Sex Hormones: Clinical Application: Exhibit illustrating the following with photographs, charts and photomicrographs: (1) the functions of the sex hormones; (2) the indications and contraindications for their use; (3) the effects of their administration on genital growth and other secondary sex characteristics, such as the growth of the breasts, uterus and prostate, particularly in primary hypogonadism; (4) their effects on skeletal growth and on the configuration of the skeleton, and (5) damage to the normal testis and azoospermia from the administration of both the male and female sex hormones.

J. WEST MITCHELL, The Diabetes Commission, Pennsylvania State Medical Society, Sewickley, Pa.:

Work of the Diabetes Commission—Pennsylvania State Medical Society: Exhibit of posters showing problems to be solved in Pennsylvania and results accomplished (two and one-half years' work); examples of hospitals and private office record forms, literature published and primer for diabetic patients; diabetes statistics for Pennsylvania condensed.

LESTER R. DRAGSTEDT, ORMAND C. JULIAN, CORNELIUS W. VERMEULEN, J. GARROTT ALLEN and DWIGHT E. CLARK, University of Chicago, Chicago:

Physiology and Clinical Significance of Lipocaic: Exhibit presenting the role of lipocaic as an internal secretion of the pancreas necessary for life. A deficiency of this hormone causes fatty infiltration in the liver in both experimental animals and man, and this can be prevented or cured by the oral or parenteral administration of pancreas extracts containing lipocaic. The effect of lipocaic in the treatment of psoriasis is presented.

LEANDRO M. TOCANTINS, J. F. O'NEILL and H. W. JONES, Jefferson Medical College of Philadelphia, Philadelphia:

Infusions of Blood and Other Fluids into the Circulation Via the Bone Marrow: Exhibit of charts, models, specimens and drawings demonstrating the rapidity of absorption of substances injected into the marrow of various bones of young and adult men and of rabbits; anatomic landmarks and characteristics of the marrow cavity of various bones; detailed steps of the technic of infusion into marrow; indications, contraindications and limitations of the method.

F. LOWELL DUNN, University of Nebraska, College of Medicine, Omaha, and WALTER J. RAHM JR., New York:

Cathode Ray Visualization of Normal and Pathologic Chest Sounds: Exhibit of cathode ray photographs, descriptive matter describing the chest in question and roentgenograms of the chest; visualization of chest sounds by the use of an amplifier and a cathode ray oscillograph offers definite refinements in analysis over the auditory method.

BERNARD A. WATSON, Battle Creek, Sanitarium, Mich.:

Clinical Significance of Glycosuria and the Prevention of Diabetes: Exhibit showing the result of nine years' study of patients having glycosuria on routine urine examinations and studied further with dextrose tolerance tests; those patients having slightly disturbed curves had repeated dextrose tolerance tests at intervals of about six to eight months; when a diabetic type of curve was found, diet was instituted with recovery of the tolerance in most patients.

JOHN W. NORCROSS, Lahey Clinic, Boston:

Problems in Hematology: Exhibit of diagrams, photographs, charts, posters, drawings and microscopic specimens showing blood cells, blood smears and hematologic problems.

THOMAS M. PEERY, George Washington University School of Medicine, Washington, D. C.:

Incomplete Rupture of the Aorta: A Cause of Cardiac Pain and of Aortic Insufficiency: Exhibit of clinical histories, chest roentgenograms, electrocardiograms and the like showing patients who proved at autopsy to have incomplete tears of the aortic walls; photographs, artist's drawings, diagrams and autopsy specimens illustrating the lesions encountered in the aortic wall; the mechanism of aortic insufficiency in such cases explained by charts and models.

W. H. DEARING, A. R. BARNES, H. E. ESSEX and J. F. HERRICK, Mayo Clinic, Rochester, Minn.:

Effects of Toxic Doses of Digitalis, Pitressin and Prolonged Oxygen Deprivation on Heart, Brain, Electrocardiogram and Coronary Blood Flow in the Experimental Animal: Exhibit of charts, photomicrographs and photographs showing the effects of therapeutic and toxic doses of digitalis on the myocardium, brain, electrocardiogram and coronary blood flow; microscopic sections demonstrating the myocardial and cerebral lesions produced by toxic doses of digitalis, multiple doses of pitressin and prolonged oxygen deprivation.

ALFRED E. COHN, Hospital of the Rockefeller Institute for Medical Research, New York:

Some Aspects of the Natural History of Rheumatic Cardiac Disease: Exhibit of charts illustrating onset of disease; duration of disease; description of course of disease; influence on the course of disease of such factors as activity and auricular fibrillation; nature of death, age and some postmortem observations; mortality in rheumatic cardiac disease.

M. H. BARKER, H. A. LINDBERG, MAURICE WALD and LOYAL DAVIS, Northwestern University Medical School, Chicago:

The Thiocyanates and Hypertension: Clinical and Experimental Observations: Exhibit of charts, photographs, photomicrographs and specimens showing pharmacology; technic of cyanate control and its effect on essential and malignant hypertension and toxic manifestations; experimental hypertension and effect of cyanates, together with clinical observations on the combined surgical and cyanate treatment of hypertension.

LOUIS N. KATZ, RAYMOND S. MEGIBOW, FRANZ S. STEINITZ, MILTON MENDLOWITZ and MAURICE SOKOLOW, Michael Reese Hospital, Chicago:

Observations on Pulmonary Embolism: Exhibit showing pressure changes in the pulmonary and systemic vessels which follow major and multiple minor embolisms, as well as the effect on the circulation time, circulating blood volume, cardiac minute output and arteriovenous oxygen content following major embolism. Roentgenograms in which the pulmonary arterial tree is visualized with 70 per cent diodrast show the effects of pulmonary embolism. The manner in which respi-

ration is affected by major and multiple minor embolism is presented and the changes are correlated with the variations in blood gases. The effects of various therapeutic procedures on these changes are analyzed.

WILLIAM B. WARTMAN, Western Reserve University, Cleveland:

Narrowing or Occlusion of Coronary Arteries: Exhibit of diagrams and photomicrographs illustrating the various lesions which cause narrowing or occlusion of the coronary arteries.

T. J. DRY and F. A. WILLIUS, Mayo Clinic, Rochester, Minn:

Life Expectancy in Various Types of Conduction Disturbances Affecting the QRS Complex: Exhibit showing life expectancy in various types of conduction disturbances affecting the relative frequency and etiology; electrocardiograms illustrating bundle branch block, intraventricular block, wide S wave pattern and conduction disturbances with short PR interval. The term bundle branch block becomes bundle branch block with concordant graphs. The term intraventricular block becomes bundle branch block with discordant graphs. The wide S wave pattern remains unchanged. Conduction disturbances of the shortened PR interval remain unchanged.

ROBERT M. DALEY, RICHARD GUBNER and HARRY E. UNGERLEIDER, Equitable Life Assurance Society, New York:

The Clinical Evaluation of Heart Size Measurements: The detection of enlargement of the heart is a cardinal sign of heart disease and gives valuable information as to the type and extent of the cardiac lesion present. Numerous measurements have been proposed to determine heart size. These are critically considered by means of illustrative roentgenograms, and their practical value and limitations are indicated. Emphasis is placed on the many physiologic variables which must be considered in interpreting the size of the heart. Teleroentgenographic methods are stressed, but comparison is made with orthodiagrams and fluoroscopy. Roentgen methods are compared with the evaluation of heart size by electrocardiography and physical examination.

CHAUNCEY C. MAHER, PAUL H. WOSIKA, WELDON K. BULLOCK and STANLEY GUMBINER, Chicago:

The Cardiovascular Aspects of Sickle Cell Anemia: Exhibit showing that sickle cell anemia is probably an inherited defect occurring in Negroes of whom a percentage have a constant anemia throughout their lives; that those who have anemia persistently develop cardiac enlargement, and congestive heart failure constitutes one mode of death; that few live beyond the thirty-fifth year; that practically all the patients suffer with joint pains and are victims of many intercurrent infections, and that rheumatic heart disease may be suspected of being present. Representative case histories, the sickling phenomenon, the characteristics of the anemia, the mendelian inheritance, the cardiac silhouette, electrocardiograms, water balance charts and autopsy results are shown.

LOUIS I. DUBLIN and DONALD B. ARMSTRONG, Metropolitan Life Insurance Company, New York:

Studies in Acute Rheumatic Fever: Exhibit showing recent data on mortality from rheumatic fever and rheumatic heart disease in children and young adults; annual death rates and causes of death among children after an attack of acute rheumatic fever and factors influencing the mortality; new data on the relative importance of rheumatic heart disease in the total mortality from heart disease.

GERTRUDE P. WOOD, American Heart Association, New York:

Educational Work of the American Heart Association: Exhibit of educational and exhibit material including books, pamphlets and leaflets on various phases of cardiovascular disease.

W. D. CUTTER and HOMER F. SANGER, Council on Medical Education and Hospitals, American Medical Association, Chicago:

Medical Education and Hospitals: Exhibit showing the work of the Council on Medical Education and Hospitals, with

graphic presentation of current surveys of medical colleges, graduate medical education, internship, residencies, licensure and hospital facilities. Charts, maps and descriptive literature based on the Council's original investigations.

Section on Surgery, General and Abdominal

The Section on Surgery, General and Abdominal, in addition to its other exhibits, is presenting groups of exhibits on cancer and on burns. The representative from this section to the Scientific Exhibit is Grover C. Penberthy, Detroit.

GROVER C. PENBERTHY and CHARLES N. WELLER, Children's Hospital of Michigan, Wayne University College of Medicine, Detroit:

The Treatment of Burns: Exhibit of charts, graphs and photographs showing an analysis of 800 to 1,000 cases of burns under treatment since 1922, depicting the various types of treatment and reporting the morbidity and mortality.

ROBERT H. ALDRICH, Boston City Hospital, Boston:

Treatment of Burns with Special Reference to Those Received in War: Exhibit consisting of charts, photographs and drawings showing a complete study on all the burned patients entered in the Boston City Hospital for the last twenty years; comparisons are made on the various forms of treatment, bringing out mortality and morbidity figures, analyzing a series of about 2,000 cases; reprints will be available.

D. M. GLOVER and ARNOLD F. SYDOW, St. Luke's Hospital, Cleveland:

Treatment of Burns: Statistical data which seem to give information concerning the effectiveness of treatment are presented. Management of the acute burn by the coagulation regimen is illustrated, as well as later treatment of the granulating wound and repair of the cutaneous defect.

HENRY N. HARKINS, Henry Ford Hospital, Detroit:

The Treatment of Burn Shock: Exhibit of charts, photographs and specimens demonstrating the nature of burn shock and its relation to death from burns, as well as its relation to other types of shock; the treatment of burn shock is demonstrated; local treatment is cited only with regard to shock prevention; a portion of the exhibit illustrates the treatment of war burns with regard to shock.

EARL C. PADGETT, University of Kansas School of Medicine, Kansas City, Mo.:

Early and Late Care of Soft Tissue Injuries: Exhibit consisting of examples of the early and late care of soft tissue injuries showing before and after results of large lacerated wounds repaired immediately, and also later results after healing has taken place; examples of repair of certain injuries by means of cutaneous grafts are shown, as well as the use of some filling in material such as a thick skin flap, derma or cartilage. Examples of the early care of fractures of the face and jaw bones, showing fractures of the nasal bones, frontal bones, maxillary compound including the malar bone and the mandible. Defects due to injuries in which healing has occurred, including damage to the nasal bones and malar bones from car accidents and other injuries showing large gunshot wounds of the mandible and face.

WILLIAM BATES, BERNARD JUDOVICH, WINIFRED STEWART and JOSEPH HUGHES, Graduate Hospital, University of Pennsylvania, Philadelphia:

Somatic Pain: Exhibit dealing with (1) pain of somatic origin involving shoulder, arm, chest wall, abdominal wall and back; (2) the depressing action of the ammonium ion on "C" fibers, relieving pain without motor effect, including a clinical report of painful syndromes treated by paravertebral nerve block and a series of intraspinal injections using the ammonium ion in cases of intractable pain, (3) skeleton model demonstrating landmarks and step by step technic in regional anesthesia. An electric manikin constructed on a skeleton with electrodes simulating paravertebral roots and sympathetic ganglia which, when properly injected, register on panel board, indicating nerve and distribution. Etiology, diagnosis and treatment of pain and tenderness, segmental in type.

K. J. HENRICHSEN and RICHARD DAVISON, Chicago Municipal Tuberculosis Sanitarium, Chicago:

Diagnosis, Differential Diagnosis and Treatment of Pulmonary Diseases, Tuberculosis: Exhibit of roentgenograms showing case histories, essentials for diagnosis and differential diagnosis in disease of the lungs, treatments and result of treatments.

RICHARD E. HELLER, Northwestern Medical School, Chicago:

Varicose Veins and Their Complications: Exhibit of diagrams, charts, graphs and photographs illustrating the anatomy, physiology, pathology and treatment of the subject; particular emphasis is placed on the relationship of the physiologic changes in varicose veins to the genesis of the complications and to the methods of treatment.

GEZA DE TAKATS, WILLIAM C. BECK, HOWARD HEYER, ROY O. RISER and ROBERT W. KEETON, University of Illinois Medical School, Chicago:

The Surgical Approach to Hypertension: Exhibit of charts illustrating the historic development of surgical treatment, the classification of hypertensive states, the grading of the severity of the disease and the indications for operation. The pre-operative study of patients is described, the various technics used in this clinic are shown, the results are classified and tabulated, the mechanism of relief obtained by surgical methods is analyzed and illustrative case reports are given. Moulages illustrating the degree and nature of arteriolar sclerosis have been prepared and colored photographs of eyegrounds are shown in a transparent box illustrating the various grades of hypertension and the changes occurring after operation.

WOOLFOLK BARROW and FRANCIS M. MASSIE, Lexington, Ky.:

Acute Cholecystitis: Pathology and Results of Treatment in Relation to the Time Elapsing After Onset: Exhibit of various stages in the development of acute cholecystitis, in relation to the time elapsing after the onset of symptoms, shown by photomicrographs and colored films. An analysis of patients with acute cholecystitis is made, with an attempt to correlate the results of treatments with the pathologic changes of the gallbladder. The relationship of operative and conservative treatment to the time elapsing after the onset of symptoms is stressed by charts.

THOMAS A. SHALLOW, KENNETH E. FRY and JOHN DETUERK, Jefferson Medical College Hospital, Philadelphia:

Parathyroid Tumors: Exhibit consisting of a presentation based on the clinical importance of parathyroid adenomas, with observations on a group of patients, including a father and daughter, proved to have true adenomas; charts showing diagnosis, both clinical and laboratory, transparencies showing abnormalities of bones, photomicrographs and photographs of specimens and patients with diagnostic methods and the results obtained from operative treatment.

D. HENRY POER, FRED F. RUDDER, T. STERLING CLAIBORNE and WILLIAM R. MINNICH, Junior League Thyroid Clinic, Grady Hospital, Atlanta, Ga.:

Goiter Experiences in a Southern Clinic: Exhibit showing incidence of goiter in Georgia, comparison of types and varieties seen in the Negro race, pathologic changes, treatment of tetany with dihydrotachysterol and vitamin D, blood iodine studies and relation of ocular tension to serum calcium.

LAWRENCE N. ATLAS, Cleveland City Hospital, Mount Sinai Hospital and Western Reserve School of Medicine, Cleveland:

Lumbar Sympathectomy in the Treatment of Chronic Obliterating Disease of the Peripheral Arteries; An Oscillometric Study: Exhibit consisting of a series of tracings taken with a recording oscillometer; the tracings present evidence of the growth of a pulsating collateral arterial circulation following lumbar sympathectomy in properly chosen cases of chronic obliterating arterial disease of the lower extremities; they also illustrate that, other factors being equal, the degree of col-

lateral circulation formation following lumbar sympathectomy is dependent on the proximal extension of the obliterating process and the pathology of that process.

CLAIRE L. STRAITH and WAYNE B. SLAUGHTER, Detroit, and E. HOYT DEKLEINE, Buffalo:

Plastic Surgery: Exhibit of photographs demonstrating methods used in the immediate care of severe facial injuries such as those encountered in explosions and gun shots. Methods of subsequent repair of facial wounds, injuries and deformities will be demonstrated by color slides projected on a transparent screen in a closed cabinet. Many of these will show actual operative technic and illustrate the results accomplished by the various plastic procedures.

GEORGE CRILE JR., Cleveland Clinic, Cleveland:

Carcinoma of the Thyroid: Exhibit of roentgenograms, photographs, photomicrographs and gross specimens of thyroid carcinoma showing the various types of carcinoma and the treatment recommended.

JAMES BARRETT BROWN, St. Louis:

The Management of Compound Injuries of the Face and Jaws: Exhibit of mounted photographs and roentgenograms describing the subject in general and showing methods of fixation and repair. Follow-up photographs as well as late secondary corrections of some deformities will be included. An effort will be made to emphasize (1) early replacement and fixation if possible before infection and fibrosis has occurred, (2) avoidance of sacrifice of any viable bony or soft tissue in the débridement, (3) the importance of simple direct methods of repair with the use of only a minimum of apparatus and (4) the value of sulfanilamide, especially in wounds involving the floor of the mouth and neck.

W. D. GATCH and J. S. BATTERSBY, Indiana University Medical Center, Indianapolis, Ind.:

Effect of Bowel Distention on Plasma Volume: Exhibit presents experimental studies which explain that overdistention of the bowel as encountered in acute intestinal obstruction will produce a fatal degree of hemoconcentration due to loss of blood plasma. Clinical applications are discussed and an explanation is suggested for sudden death sometimes occurring soon after deflation of obstructed bowel.

ROY D. MCCLURE and CONRAD R. LAM, Henry Ford Hospital, Detroit:

Methods and Results in Heparin Administration: The exhibit consists of posters showing the indications for heparin therapy and the results obtained in 40 patients treated by general heparinization. The chief indications are repeated pulmonary infarctions and arterial surgery. The effect on the clotting time of the various heparin preparations available at this time is demonstrated by charts. Results in arterial surgery utilizing heparin are shown in transparencies, and methods of administration are demonstrated.

HARRY KOSTER, Crown Heights Hospital, Brooklyn:

A Method for Preventing or Diminishing Peritonitis from Leakage After Intestinal Resection or Perforation: Exhibit showing a method for preventing or diminishing peritonitis, based on the principle that it is safe to reposit within the peritoneal cavity bowel which has been exteriorized for several weeks, and on the proposition that peritonitis from leakage cannot occur if the leak (actual or potential) is walled off outside the peritoneal cavity.

R. M. WATKINS, Academy of Medicine of Cleveland, Cleveland:

A Ten Year Survey of the Appendicitis Problem in Cleveland: Exhibit showing a study made on a year by year basis of all cases of acute and suppurative appendicitis which have occurred in metropolitan Cleveland from 1930 to 1940, including about 15,000 case reports. The usual routine analyses of the diagnostic procedures and the surgical care are made with special emphasis on studies of the relationship between delay in operation and mortality rate, of the economic status of the

patients, of the influence of taking laxatives, of the comparative results on charity cases and private patients and of the influence of age on results.

WILLIAM Y. LEE, Philadelphia:

Gallbladder Visualization by Direct Injection of Dye Through Peritoneoscope: Exhibit showing a series of roentgenograms comparing gallbladder visualization by the ordinary oral method of dye administration, and a new method of direct injection of dye into the gallbladder through the peritoneoscope. The ordinary peritoneoscope has been modified, offering great possibilities in cholecystography and in the further study of the etiologic factors in cholelithic disease.

ARNOLD S. JACKSON, JAMES A. JACKSON and J. NEWTON SISK, Jackson Clinic, Madison, Wis.

Cancer of the Gastrointestinal Tract: Exhibit of moulages, transilluminated drawings, charts and roentgenograms showing cancer of the esophagus, stomach, small and large intestine and rectum. Statistical charts emphasize the characteristic symptoms and results of operative treatment. The technics of various surgical procedures, such as the use of the De Petz suture machine for gastric resection, the Devine operation for resection of the large bowel and the new operation for cancer of the rectosigmoid, are illustrated by moulages. A case of total gastrectomy including the preoperative and postoperative roentgenograms, the gross specimen and the follow-up is shown. Motion picture films illustrating types of operations are shown in the motion picture hall.

GEORGE T. PACK, GORDON McNEER and EDWARD M. LIVINGSTON, Memorial Hospital for Cancer and Allied Diseases, New York:

Cancer of the Stomach: Exhibit showing studies on etiology, clinical, gastroscopic, roentgen-ray diagnosis, prognosis and end results. The end results include not only the figures from the Memorial Hospital but the world figures (every statistical article from 1870 to 1940). Technical details of all operative procedures are shown, including total gastrectomy and trans-thoracic resection of the cardiac end of the stomach, metabolic studies after total gastrectomy, detailed chemical studies of the relation of atrophic gastritis to cancer and radiation therapy of gastric cancer.

G. V. BRINDLEY, Scott and White Hospital, Temple, Texas:

Carcinoma of the Colon; Factors Affecting Its Cure: The exhibit will consist of moulages and drawings showing various methods of surgical technic in the treatment of carcinoma of the colon. It includes also moulages of pathologic specimens, photomicrographs and statistics. The time at which the diagnosis is made, the extent of the neoplasm, the location of the lesion, the size of the growth, the degree of cell activity and the type of surgical treatment instituted are all factors affecting the cure of carcinoma of the colon.

WALTMAN WALTERS, HOWARD K. GRAY and JAMES T. PRIESTLEY, Mayo Clinic, Rochester, Minn.:

Malignant Lesions of the Stomach; Importance of Early Treatment and End Results: Exhibit consisting of a statistical analysis of 11,000 cases in which a diagnosis of malignant lesions of the stomach was made in 1907 to 1938 inclusive; operation in 6,352 cases, in 2,840 of which gastrectomy was performed. Detailed analysis shows graphically (1) five year, ten year, fifteen year, twenty year and twenty five year survival rates; (2) five year survival rate according to grade of malignancy and according to the age of the patient; (3) five year survival rate according to involvement of the lymph nodes and according to extension, and (4) five year survival rate according to type of lesion. Diagrammatic models describe various types of gastrectomy and palliative procedures; moulages and transparencies show the gross and microscopic pathologic changes of various grades and types of malignant lesions of the stomach with their corresponding roentgenograms; the extreme importance of early recognition of "ulcer" type of precancerous lesions and value of gastroscopy are emphasized.

ALFRED GOLDMAN, University of California Medical School, Thoracic Surgery Clinic, San Francisco:

Benign and Malignant Tumors of the Lung: Exhibit of transparencies depicting the clinical course, history, roentgen studies, gross pathologic changes, histology, diagnosis and treatment of tumors of the lung; cases of bronchial adenoma are illustrated together with data describing their life history and differentiation from other polypoid bronchial tumors; carcinoma of long and of short duration as well as some rare tumors are illustrated.

Section on Obstetrics and Gynecology

The representative to the Scientific Exhibit from the Section on Obstetrics and Gynecology is H. Close Hesselstine, Chicago.

F. H. FALLS and CHARLOTTE S. HOLT, State Department of Public Health and University of Illinois College of Medicine, Chicago:

Cesarean Section: Exhibit of fifteen sculptured models depicting the pathologic anatomy and operative technic involved in the common operations for cesarean section. Special steps in technic and indications for operations are shown in wash drawings. A lettered chart pointing out more common indications and contraindications for the operation, and one indicating important historical facts in regard to development of the operation are shown; also a lettered chart on the use of the roentgen ray in determining indications.

CON FENNING, University of Utah, Salt Lake City; F. L. ADAIR and M. E. DAVIS, University of Chicago, Chicago:

Analysis of Recorded Uterine Motility During Pregnancy and Labor: Exhibit of recordings, charts, posters and drawings illustrating standards for analysis involving normal and abnormal contractural displacements, normal and abnormal sequential contractural displacements, statistical analysis of the recordings showing frequency distribution of grouped data, standard deviations and significance ratios existing between classes and subclasses of cases investigated; illustrations showing the practical application of the results in the assay of medicinal agents acting to modify uterine activity. Demonstration of the improved electrical and mechanical equipment suitable for recording uterine motility during pregnancy and labor.

PAUL F. FLETCHER, ORA J. GIBSON and S. EDWARD SULKIN, Venereal Disease Control Service and Laboratory Section of the St. Louis Health Division, St. Louis:

Diagnosis and Treatment of Gonorrhea in Women: Exhibit presenting a study of the clinical and laboratory diagnosis of gonococcal infections in women, and the treatment of same with a sulfathiazole-beta lactose combination, and sulfathiazole alone in 165 cases; an evaluation of the dependability of the microscopic (smear) and cultural methods of laboratory diagnosis; an account of the methods of treatment and a critical analysis of the results obtained that is based on a follow-up study of individual cases by routine smears and cultures, taken at weekly intervals for at least three months after cessation of treatment.

HOWARD L. ALT, Q. B. DEMARSH and W. F. WINDLE, Northwestern University Medical School, Chicago:

Immediate and Delayed Clamping of the Umbilical Cord; Effects on the Infant: Exhibit consisting of a model, illustrations, graphs, written statements and the like depicting (1) the history of the time of clamping the umbilical cord; (2) the amount of blood that can be obtained from the placenta after immediate and delayed clamping of the cord; (3) the relationship between the blood volume in the placenta and infant and the flow of placental blood into the infant; (4) the significance of the blood lost to the infant by early clamping of the cord; (5) the blood picture of the infant after immediate and delayed clamping of the cord and (6) the possible role of deprivation of the infant of its placental blood in the cause of iron deficiency anemia during the first year of life.

I. C. RUBIN, Mount Sinai Hospital, New York:

Diagnosis of Impaired Tubal Function by Kymographic Uterotubal Insufflation and Soluble Viscous Contrast Medium: Exhibit showing a manikin (artificial mechanism) demonstrating uterotubal insufflation with insufflation apparatus attached; transparencies showing comparative value of kymographic uterotubal insufflation and the use of a soluble viscous radiopaque medium in which the former are to be supplemented by roentgen ray contrast mediums versus the use of iodized oils, emphasizing the disadvantages of the latter.

W. W. GREULICH, The Brush Foundation, Western Reserve University School of Medicine, Cleveland, and HERBERT THOMS, Yale University School of Medicine, New Haven, Conn.:

Growth and Development of the Female Pelvis During Puberty and Early Adolescence: Exhibit showing anterior, posterior and lateral roentgenograms, repeated at intervals over a period of several years on 107 puberal girls with illustrations of the development of the various pelvic types.

ROBERT L. DICKINSON, New York:

Premarital Consultation: Exhibit of posters outlining topics covered in usual consultations; examinations required by law in different states; other parts of examination, based on general and special needs as developed by the history of the couple, such as hereditary disorders, especially if occurring in both families, infections, possibility of sterility from such; important inhibitions. Pictures and models are shown which have been found useful in answering specific inquiries of the engaged couple concerning anatomy and physiology, antepartum care, birth and aftercare.

LEO WILSON and RAPHAEL KURZROK, College of Physicians and Surgeons, Columbia University, New York:

Contractions of the Human Uterus; Hormonal Control in Gravid and Nongravid Women: Exhibit consists of recordings of uterine contractions during the normal menstrual cycle, pregnancy, labor and the early puerperium, and in cases of functional dysmenorrhea, oligomenorrhea, amenorrhea and failure of ovulation. The action of the female and male sex hormones on uterine contractility is demonstrated. The relation of the menstrual myometrial cycle to the contractions of pregnancy and labor is discussed.

CLARENCE J. GAMBLE, Milton, Mass., and R. L. BROWN, St. Louis:

A Method for Determination of the Relative Spermicidal Solutions and Jellies: Exhibit demonstrating determination of spermicidal time, showing spermicidal activity with dark field microscope; apparatus for the accurate measurement of 0.04 cc. of semen which permits multiple comparisons with a single specimen; charts and posters of experiments showing variations in spermicidal time with age of specimen, indicating the necessity of comparing spermicidal materials with semen from the same specimen mixed with each at the same time; charts of comparisons of spermicidal times found for certain commercial spermicides.

MORTIMER N. HYAMS and WILLIAM B. SILBERBLATT, New York Post-Graduate Hospital and Beth David Hospital, New York:

Chronic Endocervicitis—A Clinical Pathologic Study: Exhibit showing an intensive study of the varied stages of endocervicitis in its relation to treatment, illustrated with transilluminations, photomicrographs and specimens.

CHARLES EDWIN GALLOWAY and T. D. PAUL, Northwestern University and Evanston Hospital, Evanston, Ill.:

Cervical Pathology: Exhibit of photographs, photomicrographs and enlarged colored plates of cervical lesions of all kinds; model and camera used; projection of photographs.

Section on Ophthalmology

The section exhibit committee of the Section on Ophthalmology consists of Georgiana Dvorak Theobald, Oak Park, Ill., chairman; Derrick Vail, Cincinnati, and John E. L. Keyes, Youngstown, Ohio.

ALBERT D. RUEDEMANN, Cleveland Clinic, Cleveland:

Exophthalmos: Exhibit showing the various types of exophthalmos, both unilateral and bilateral. Methods of diagnosis are portrayed by wax models and colored photographs. Surgical procedures for the various types are indicated by charts.

PHILLIPS THYGESON and W. L. STONE JR., Institute of Ophthalmology, New York:

Epidemiology of Inclusion Conjunctivitis: The experimental work on inclusion conjunctivitis in the adult and newborn is summarized; the properties and methods of demonstration of the virus are detailed and the occurrence and characteristics of infections of the genitourinary tract from which the virus can be isolated are described; evidence is advanced indicating that eye to eye transmission is rare and that most infections arise by transfer from the genitourinary tract; the parallelism with the epidemiology of gonorrheal ophthalmia is stressed.

HENRY MINSKY, Harlem Hospital, New York:

Repair of Recent Lid Lacerations (Intramarginal Splinting Suture): Exhibit showing that the repair of recent lid lacerations involving the margin is achieved by a simple procedure which splints the margin of the torn lid against the other intact one. A suture through the tips of the wound in the plane of the gray line of both lids prevents vertical overriding even when the eyeball is perforated or absent. When both margins are lacerated at a common point, a "figure-of-eight" intramarginal splinting suture is employed to insure perfect approximation. In avulsion of the lid, overcorrection (higher and more posterior) is assured by a deep mattress suture anchored to the periosteum above the dome of the sac. The torn caniculus is threaded to attempt preservation of its lumen.

RICHARD THOMPSON and D. L. KHORAZO, Institute of Ophthalmology of Presbyterian Hospital, New York:

Role of the Bacteriologic Laboratory in Ophthalmology: Exhibit summarizing in detail the functions of the bacteriologic laboratory in the diagnosis and treatment of ocular disease, in the teaching of residents and special students and in research.

ISADORE GIVNER and LOUISE H. MEEKER, New York Post-Graduate Medical School and Hospital, New York:

Ocular Infections: Exhibit of transparencies depicting clinical, histologic and in some cases bacteriologic pictures of infections of the eye, including in its scope virus infections, bacterial synergism in lid necrosis, fungous infections as well as bacterial infections.

LORAND V. JOHNSON and ROBERT E. ECKARDT, University Hospitals, Cleveland:

Rosacea Keratitis and Other Conditions with Vascularization of the Cornea Treated with Riboflavin: Exhibit of diagrams, photographs and illustrative material showing the type of lesion which responds best to riboflavin therapy.

WILLIAM EVANS BRUNER, LEONARD GREENBURG, HEDWIG S. KUHN, ISOBEL JANOWICH, ELEANOR BROWN MERRILL and HELEN BENNETT SMITH, National Society for the Prevention of Blindness, Inc., New York:

The Eyes in National Defense: Exhibit of pictures and charts indicating the need of conservation of vision in national defense, emphasizing especially (1) the fact that defective vision is one of the most frequent causes of rejection in the draft, (2) the relation of eyesight to industrial efficiency and (3) the part the medical man plays in eliminating visual handicaps as a bottle-neck in industrial efficiency.

Section on Laryngology, Otology and Rhinology

The representative to the Scientific Exhibit from the Section on Laryngology, Otology and Rhinology is Fred W. Dixon, Cleveland.

C. W. ENGLER, S. C. MISSAL and H. S. REICHLE, Cleveland City Hospital, Cleveland.

Normal and Pathologic Larynges: Exhibit of human larynges impregnated with wax. Accompanying each patho-

logic specimen is a résumé of the clinical history together with a description of the gross and microscopic findings. Larynges are exhibited showing difference in appearance at various ages; also pathologic larynges. A small section is devoted to the larynges of animals to show the comparative anatomy.

H. G. KOBRAK, J. R. LINDSAY and H. B. PERLMAN, University of Chicago, Chicago:

The Conduction of Sound in the Ear: Exhibit consisting of a series of human temporal bones, prepared in such a way as to demonstrate the following physiologic phenomena: (1) the movement of the ear drum; (2) the movement of the ossicular chain and the alterations of the movements which occur in variation of frequency and intensity; (3) the influence of contraction of the intrinsic muscles of the ear on the vibration of the ossicular chain, and (4) methods of testing the physiologic characteristics of the sound conduction mechanism (resonance frequency, dampening coefficient, position of axis).

CHEVALIER L. JACKSON and JOHN FRANKLIN HUBER, Temple University School of Medicine, Philadelphia:

Applied Anatomy of the Tracheobronchial Tree: Exhibit of specimens, models, diagrams and photographs illustrating the lobar divisions of the right and left lungs respectively, and particularly demonstrating their subdivision into bronchopulmonary segments; the clinical importance of the recognition of the lobar bronchi and their segmental branches in relation to the corresponding lobes and segments of lobes is shown by the specimens and models, as well as by correlated bronchoscopic views and roentgenograms.

GEORGE E. SHAMBAUGH JR., Rush Medical College, University of Chicago, Chicago:

Fenestration Operation for the Improvement of Hearing in Otosclerosis: Exhibit showing that surgical reconstruction of the auditory conducting mechanism by means of the fenestration operation is the only treatment for otosclerosis which has yielded audiometrically substantiated improvements in hearing greater than could be attributed to normal variations. The indications for the fenestration operation are presented; the technic at present being used is illustrated by means of specimens, and the results secured in a three-year experience with this operation are shown.

G. ALLEN ROBINSON, Manhattan Eye, Ear, Throat Hospital and New York Eye and Ear Infirmary, New York:

Tumors of the Ear: Exhibit presenting a classification of benign and malignant tumors of the external and middle ear, the clinical features of malignant neoplasms, the methods of treatment by radiation and surgery and the end results of treatment.

Section on Pediatrics

The representative to the Scientific Exhibit from the Section on Pediatrics is Arthur F. Abt, Chicago. In addition to other exhibits, the section is presenting a group of exhibits on the control of air-borne infections.

WILLIAM FIRTH WELLS and MILDRED WEEKS WELLS, University of Pennsylvania School of Medicine, Philadelphia:

Air-Borne Infection, Prevention and Control: Exhibit demonstrates the prevention and control of air-borne infection by bactericidal irradiation of air; the prevention of air-borne hospital cross infections by ultraviolet light barriers; the control of epidemic childhood contagion by raising the "threshold density" above the "susceptible density," accomplished through radiant disinfection of air, and the method of measurement of sanitary ventilation by radiant disinfection. The exhibit presents clinico-epidemiologic experience with full scale installations in hospitals, institutions, dormitories and schools and offers a code based on the correlation of the measurements of sanitary ventilation with the measurements of the spread of infection and contagion.

PAUL GYÖRGY, Babies and Childrens Hospital, Cleveland:

Intoxication versus Deficiency in Experimental Dietary Conditions: Exhibit of posters, photomicrographs and specimens illustrating intoxication versus deficiency in experimental dietary

conditions, with such examples as cirrhosis of the liver, cancer of the liver, cortical necrosis of the kidneys, and egg-white injury.

NORMAN C. WETZEL, Babies and Childrens Hospital, Cleveland:

Physical Fitness from Infancy to Maturity: Exhibit of charts, posters and photographs dealing with physical fitness from infancy to maturity in terms of physique (body build), developmental level, nutritional grade, physical status, age advancement and basal metabolism; an objective method of evaluation affording a guide to individual physical progress.

L. W. SAUER, LOUIS D. MINSK and IWAN ROSENSTERN, The Cradle, Evanston, Ill.:

Prevention of Cross Infection in Nurseries: Exhibit demonstrating equipment and features applied at The Cradle to prevent hand-borne cross infections; the practical application of air conditioning, germicidal lights and mechanical barriers to prevent air-borne cross infections; bacteriologic and preliminary clinical results.

HENRY J. GERSTENBERGER, Babies and Childrens Hospital, Cleveland:

Vitamin D Studies: Exhibit showing (a) the relative efficacy of vitamins D₂ and D₃ in the cure of rickets in monkeys (*Macacus rhesus*); (b) the relative effectiveness of vitamin D₂ dissolved in oil and in propylene glycol in the cure of rickets in monkeys (*Macacus rhesus*), and (c) the effectiveness of parenteral—single, small dose—administration of vitamin D₂ in the prevention and cure of infantile rickets.

KARL A. MEYER, HANS POPPER and ALEX B. RAGINS, Cook County Graduate School of Medicine and Cook County Hospital, Chicago:

Histologic Demonstration of Vitamin A in Tissues: Exhibit showing that vitamin A imparts a characteristic fluorescence which is used in the histologic demonstration of vitamin A in tissues by means of fluorescence microscopy. Photomicrographs will be shown demonstrating the distribution of vitamin A in human organs under normal and pathologic conditions and also in the organs of experimental animals under various nutritional conditions. The vitamin A fluorescence will be demonstrated in frozen sections of human organs under the fluorescence microscope.

JAMES A. REYNIERS, Laboratories of Bacteriology, University of Notre Dame, Notre Dame, Ind.:

Air-Borne Infection—Prevention and Control: Exhibit showing the control of air-borne infection by filtration of the air.

J. VICTOR GREENEBAUM, THEODORE K. SELKIRK and SAMUEL BROWN, Jewish Hospital, Cincinnati:

Roentgen Kymography of the Heart in Childhood: Exhibit of roentgenkymograms showing examples of acquired and congenital cardiac diseases in childhood; demonstrations on roentgen films of permanent recording of cardiac silhouette movements fleetingly observed by fluoroscopic examination.

Section on Pharmacology and Therapeutics

The representative to the Scientific Exhibit from the Section on Pharmacology and Therapeutics is O. P. J. Falk, St. Louis.

K. K. CHEN and G. H. A. CLOWES, The Lilly Research Laboratories, Indianapolis:

Variations of Drug Action: Exhibit showing the racial difference of response to drugs and chemicals, examples of which are mustard gas and mydriatics to Caucasians, Orientals and Negroes; also the species difference of response to drugs, such as digitalis-like drugs in different experimental animals; result on sex difference and temperature difference are shown.

EDWIN E. OSGOOD, University of Oregon Medical School, Portland, Ore.:

Neosarsphenamine in the Therapy of Bacterial Infections: Exhibit of tables, graphs and photomicrographs demonstrating

the effectiveness of neosarsphenamine against infections with staphylococci, *Streptococcus viridans* and other organisms in the presence of living human cells. Data on the levels necessary for bactericidal action; the excretion, toxicity and comparative effectiveness with other arsenicals and drugs of the sulfanilamide group and on the mechanism of action are presented; the correct dosage for clinical therapy; the evidence that uniform blood levels are maintained by this dosage schedule; and temperature charts and case histories of patients treated with this method.

FRANKLIN F. SNYDER, Chicago Lying-in Hospital, University of Chicago, Chicago:

Obstetric Analgesia: Exhibit showing (1) a new method of assay especially sensitive for determination of effects on the fetus as indicated by changes in fetal respiration and circulation; (2) results of assay of the analgesic and depressant effects of the drugs commonly administered during labor, e. g. morphine, scopolamine and barbiturates; (3) the risk involved in treatment of respiratory depression by the administration of respiratory stimulant drugs, e. g. alpha-lobeline, caffeine, nikethamide, metrazol and cyanide.

HENRY R. KREIDER, Chemical Laboratory, American Medical Association, Chicago:

The Laboratory of the American Medical Association as an Aid to the Physician: Exhibit of charts and materials designed to acquaint the physician with the work of the laboratory, its method of procedure and its relation to the medical profession.

E. PERRY McCULLAGH, E. J. RYAN and D. ROY McCULLAGH, Cleveland Clinic, Cleveland:

Male Sex Hormones—Some Physiologic and Clinical Observations: Exhibit showing the therapeutic effects and metabolic alterations resulting from the use of male sex hormones (testosterone propionate and methyl testosterone), illustrated graphically through the medium of charts, photographs and descriptions. In eunuchism, the changes in bodily configuration, hair growth, genital development, epiphyseal age, prostate and the like as a result of testosterone propionate therapy are demonstrated. The use of this preparation in castrates, in the male climacteric and in women is brought out. Sodium chloride and nitrogen retention and gain in body weight as a result of testosterone propionate are demonstrated, as well as the effects on basal metabolic rate. The effect on spermatogenesis, the volume of semen and sperm motility is emphasized. The therapeutic effects of methyl testosterone are discussed briefly and the metabolic changes listed are demonstrated. Certain of the endocrine interrelationships involved and the urinary distribution of androgens are brought out.

ELMER H. LOUGHLIN, SAMUEL H. SPITZ and RICHARD H. BENNETT, Long Island College of Medicine, Brooklyn:

Pneumococcal Lobar Pneumonia: Exhibit of charts, posters, photographs, transparencies and moulages presenting the etiologic diagnosis, the clinical diagnosis, treatment both general and specific, complications and technical methods, including bacteriology and methods of administering serum and drugs.

Section on Pathology and Physiology

The representative to the Scientific Exhibit from the Section on Pathology and Physiology is Frank W. Konzelmann, Philadelphia.

HAROLD F. BLUM, HUGH G. GRADY and JOHN S. KIRBY-SMITH, National Cancer Institute, Bethesda, Md.:

Induction of Cutaneous Cancer by Ultraviolet Radiation: Exhibit describing the production of tumors of the skin of mice by ultraviolet radiation, and the changes antedating tumor formation; photographs and transparencies illustrating the gross and microscopic pathologic changes, and experimental methods; charts illustrating various physical factors involved such as wavelengths, dosage and penetration. Relationship to cutaneous cancer in man is considered.

DANIEL J. GLOMSET and ANNA T. A. GLOMSET, Iowa Methodist Hospital, Des Moines, Iowa:

The Morphology of the Cardiac Conduction System: Exhibit of specimens showing structure of the heart in the region of sulcus terminalis and of the region of the bundle of His in man, dog, sheep, cattle, horse and swine; slides showing histology of the two regions in the heart mentioned and miscellaneous photographs; posters showing development of conduction knowledge; summary of observations.

R. K. STRAUS, S. R. GERBER, M. E. COWAN and A. J. KAZLAUCKAS, Cuyahoga County Morgue, Cleveland:

Chemical Determination of Alcoholic Intoxication: Certain Medicolegal Aspects: Exhibit showing the modified Nicloux procedure for the chemical determination of alcohol in the body fluids; charts evaluating the chemical changes in relation to alcoholic intoxication, the pathologic physiology of acute alcoholism and the role of alcoholism in vehicular fatalities, homicides, suicides and sudden deaths.

HUGH JETER and CURTIS H. EPPS, University of Oklahoma, School of Medicine and University Hospitals, Oklahoma City:

Diagnostic Value of Paracentetic and Other Aspiration Fluid Examinations: Exhibit of photomicrographs illustrating material from proved cases in which reports as to the malignant condition have been made and the final diagnosis proved by surgery or autopsy. Most of the material will represent examinations of paracentetic fluid while a few interesting aspiration biopsies are included. Brief legends accompany each group of pictures, giving the essential data on each of the cases reported. Charts give a summary of observations.

JOHN FALLON, JAMES T. BROSNAN and WILLIAM G. MORAN, Fallon Clinic, Worcester, Mass.:

The Candid Camera Applied to Medicine: Exhibit showing how the miniature precision camera, with certain adjuncts, brings simple color photography within reach of the physician himself; that is, the average physician who, although he lacks both the time to putter and the help of a photographic department, nevertheless sees many picture-worthy lesions. The exhibit demonstrates the integration of standard camera accessories with each other and with homemade apparatuses for photography in the office, in the ward, in the operating room and in the laboratory. Although three out of four clinical pictures can be hand-held snapshots through a simple close-up attachment, the exhibit also illustrates some of the more elaborate setups, as for microscopic, macroscopic and endoscopic photography; a simple photographic truck; an operating room crane, and the use of polarized light.

WARD J. MACNEAL and FRANCES C. FRISBEE, New York Post-Graduate Medical School and Hospital, New York:

Bacteriophage as an Aid in the Treatment of Staphylococcal Infections: Exhibit illustrating the character and behavior of bacteriophages in laboratory experiments as well as the method of therapeutic application with selected case records showing results.

ANNE SHIRAS, Biological Photographic Association, Pittsburgh:

Medical Photography: Exhibit showing examples of the best work in the various types of medical photography with the idea of raising the standards of illustrations in medical books and journals. Gross specimens, photomicrography, clinical records, color prints, color transparencies and apparatus are shown, with examples of faulty and inadequate photography included for comparison.

FRANK W. KONZELMANN, American Society of Clinical Pathologists, Philadelphia:

The Pathologist: Contribution to Advance of Medicine: Exhibit showing the many ways in which the pathologist contributes to the advancing standard of medicine in the community. This exhibit is shown in the hope that the medical profession may better understand the work of the pathologist and the part he plays in medical advancement.

CLARA RAVEN, Woman's Medical College of Pennsylvania, Philadelphia, and Youngstown Hospital Association, Youngstown, Ohio:

Leptospirosis: Laboratory and Clinical Aspects: Exhibit showing dark field demonstrations of *Leptospira icterohaemorrhagiae* and *Leptospira canicola* together with the culture medium used. Lantern slides showing *Leptospira* in tissues and the gross pathologic changes as shown in the guinea pig, showing the difference for the two strains. Charts showing laboratory methods for diagnosis in man and animals; incidence of canine leptospirosis in various countries including a study in Pennsylvania; incidence of Weil's disease in man; animals which serve as reservoirs of leptospira and the method of spread to man.

R. O. MUETHER, St. Louis University Medical School, St. Louis:

Studies on Lyophile Bovine Serum and Plasma as a Blood Substitute: Exhibit based on immunologic, chemical and clinical studies done on patients given bovine serum and plasma in amounts varying from 250 cc. to 2,000 cc; studies on anaphylaxis and sensitivity as well as studies on total protein, albumin, globulin ratio, and the like.

BÉLA HALPERT, Louisiana State University School of Medicine, New Orleans:

Carcinoma of the Lung: Morphologic Aspects: Exhibit showing a graphic presentation of the cellular structure of carcinoma of the lung; based on the assumption that they are all derived from a common ancestor cell, carcinomas of the lung are divided into squamous cell, columnar cell and reserve cell carcinomas; the microscopic and gross appearances are shown, with photomicrographs and gross specimens; an analysis is given of carcinomas of the lung observed in the necropsy material of the Charity Hospital of Louisiana at New Orleans for the years 1931-1940 inclusive, and statistics are presented as to their relative frequency and race and sex incidence.

M. LAURENCE MONTGOMERY, University of California Medical School, San Francisco:

Control of Liver Lipids by Pancreatic Juice: Exhibit showing that the slow development of fatty livers in depancreatized dogs maintained with insulin is related to the exclusion of pancreatic juice from the intestine, since it occurs following duct ligation and is prevented as effectively by administration of pancreatic juice as by feeding of raw pancreas and choline, and showing that this process differs from the rapid infiltration of fat in the liver due to insulin deficiency, since it occurs in spite of adequate insulin replacement therapy. Data compare depancreatized and duct-ligated controls with juice-fed animals; include photographs, transilluminated color lantern slides, photomicrographs of liver histology and gross specimens of livers, mounted in Kaiserling solution in watch-glass forms.

HENRY FIELD SMYTH and HERMAN A. SHELANSKI, University of Pennsylvania, Philadelphia:

Argyria Produced Experimentally in Laboratory Animals: Exhibit showing applications of several silver salts made directly into the stomach, vagina, bladder and eye of rabbits, while stomach and eye applications were made on white rats. The substances used were silver nitrate, mild silver protein and silver picrate. A histologic study was made on various tissues impregnated with silver nitrate, mild silver protein, strong silver protein and silver picrate. Some of these tissues were exposed to ultraviolet rays and compared with others stained with hematoxylin and eosin.

S. A. GOLDBERG and PHYLLIS STANLEY, Presbyterian Hospital, Newark, N. J.:

The Pathology of Arthritis: Exhibit of transparencies of gross and microscopic sections demonstrating the pathologic changes which occur in the synovial membrane, articular cartilage and subchondral bone, with the very early formation of synovial pannus and early erosions of the articular cartilage. The material is taken from cases of chronic arthritis in man supplemented by cases of arthritic joints in animals.

Section on Nervous and Mental Diseases

The representative to the Scientific Exhibit from the Section on Nervous and Mental Diseases is F. P. Moersch, Rochester, Minn.

G. WILSE ROBINSON, G. WILSE ROBINSON JR. and PRIOR SHELTON, Neurological Hospital, Kansas City, Mo.:

The Psychoses of Old Age: Exhibit showing that the majority of the abnormal mental states which develop after the age of 60 can be corrected; graphic and statistical analysis of 90 consecutive admissions of patients over 60 suffering from a mental disorder, less than half of whom were diagnosed as having senile dementia or arteriosclerotic psychosis; of the patients who were treated intensively, 79 per cent recovered enough to return home and to resume part or all of their former activities; etiology, pathology, prevention and treatment of the various syndromes are outlined.

SIDNEY W. GROSS, Mount Sinai Hospital, New York:

Cerebral Arteriography: Exhibit of charts and illustrations describing the indications and technic of cerebral arteriography with diodrast; roentgenograms demonstrating the normal human cerebral arteriogram and the alterations found in cerebral aneurysms, angiomas, neoplasms and arteriosclerosis.

HENRIETTA PRICE, Sheppard and Enoch Pratt Hospital, Towson, Md.:

Occupational Therapy Activities at a Psychiatric Hospital: Exhibit of posters illustrating the mental, manual and physical activities in occupational therapy department at the Sheppard and Enoch Pratt Hospital.

WALTER L. BRUETSCH, Central State Hospital, Indianapolis:

Rheumatic Epilepsy (Sequel of Rheumatic Fever): Exhibit showing that the term rheumatic epilepsy is used in cases in which convulsions develop following rheumatic fever or chorea and in cases in which chronic rheumatic cardiovalvular disease is present; the essential lesion in the brain in these cases consists of a recurrent vascular process (rheumatic arteritis) with subsequent areas of gross and microscopic infarctions; photographs of changes of the brain and clinical records of cases in which there is rheumatic epilepsy are presented.

WALTER FREEMAN and JAMES W. WATTS, George Washington University, Washington, D. C.:

Surgical Treatment of Mental Disorders: Exhibit of charts, diagrams and roentgenograms illustrating five years' experience with the operation of prefrontal lobotomy; tables showing the present condition of 80 patients operated on, the complications encountered, the indications and contraindications for operation and the theories underlying the procedure.

PAUL F. A. HOEFER and TRACY J. PUTNAM, Neurological Institute, New York:

Modern Electrodiagnosis, the Use of Electroencephalography and Other Electrical Tests as Routine Procedure: Exhibit presenting an analysis of the results of electroencephalography carried out in 1,500 cases. Focal lesions such as tumor, abscess, head injury or generalized abnormalities such as the different types of epilepsy were studied. Action potential studies of muscles have afforded some information concerning the mechanism of innervation in spasticity, rigidity, parkinsonian tremor, athetosis, dystonia and chorea. Routine electrical stimulation is of decisive significance in a few conditions, such as malingering. In most others they can usually be replaced by clinical and action potential studies.

LILLIAN COTTRELL, University of Minnesota, Minneapolis:

Histologic Variation in Nerve Trunks with Age and Chronic Debilitating Disease: Exhibit of photomicrographs with explanatory drawings depicting changes with age; for comparison, nerves are shown from patients with debilitating disease. These changes include (a) endothelial proliferation, medial fibrosis and hyalinization of blood vessels, (b) increase in endoneurium with invasion and replacement of nerve bundles and (c) alterations and reduction of parenchyma.

Section on Dermatology and Syphilology

The representative to the Scientific Exhibit from the Section on Dermatology and Syphilology is Hamilton Montgomery, Rochester, Minn.

PAUL E. BECHET, New York Post-Graduate Medical School and Hospital, New York:

Early American Dermatologists: Exhibit of autographed letters, signed manuscripts, original monographs, portraits, photographs, first editions and the like of early American dermatologists, with a brief biographic sketch of each one; mimeographed copies of a brief historical review of American dermatology distributed to visitors on request.

MAXIMILIAN E. OBERMAYER, University of Chicago, Chicago:
Cutaneous Diseases Due to Animal Organisms (Excluding Protozoa): Exhibit of charts, photographs and mounted specimens of organisms and photographs of clinical manifestations of such dermatoses as trombidiosis, acarodermatitis urticaroides (grain itch), Rocky Mountain spotted fever, pediculosis, creeping eruption, schistosomiasis, uncinarial dermatitis (ground itch) and loa loa and of the cutaneous changes produced by *Demodex folliculorum*, spiders, wood ticks, various insects—such as *Cimex lectularius*, fleas, flies and moths, and leeches and other vermes. A table gives a schematic classification of all important animal organisms with the diseases they cause.

DUNCAN O. POTH and S. R. KALISKI, San Antonio, Texas:
Hormone Therapy in Tinea Capitis: Exhibit presenting the results of hormone therapy in tinea capitis with charts showing the response to both theelin and stilbestrol, together with the number of patients, dosages used and healing time.

HAROLD THOMAS HYMAN, WILLIAM LEIFER and LOUIS CHARGIN, Mount Sinai Hospital, New York:

Massive Dose Chemotherapy of Early Syphilis by the Intravenous Drip Method: Exhibit of charts and posters illustrating "speed shock," intravenous drip, toxicology and clinical results in the treatment of patients with early syphilis.

REUBEN FRIEDMAN, Temple University School of Medicine, Philadelphia:

Scabies: Exhibit of photographs of typical and atypical cases of scabies; photomicrographs of male and female acari and of burrows; photomicrographs of acari found in Norwegian, animal and avian scabies; photographs of scabietic chancres and photomicrographs of their burrows; photomicrographs and specimens of adult, nymphal and larval acari, ova, egg shells, scybala, and the skeletal parts of acari, illustrating the diagnosis of atypical cases of scabies by means of the "scrape and smear method."

BENJAMIN S. KLINE, Mount Sinai Hospital, Cleveland:

New Standard Antigen (Water Purified) for the Microscopic Slide Precipitation Tests for Syphilis: Exhibit presenting (a) demonstration of the method of removing impurities from standard slide test antigen (given quantity of antigen is added to one half as much water in an Erlenmeyer flask, the antigen wax is precipitated out by agitation and the impurities in solution are decanted); (b) demonstration of the greater specificity of the new standard antigen (water purified) as compared to old standard antigen using a special apparatus for chilling serums to increase nonspecific reactions; (c) protocols of comparative results of slide tests with the new standard antigen (water purified) and old standard antigen in syphilitic and nonsyphilitic cases.

DAVID C. ELLIOTT, Chicago; GEORGE BAEHR, New York; LOREN SHAFFER, Detroit; GLENN S. USHER, and S. ALLAN LOUGH, Washington, D. C., U. S. Public Health Service.

Syphilis—Massive Dose Therapy: Exhibit showing (1) schedules of therapy used in this clinical experiment; (2) exhibit of charts showing serologic responses to massive dose therapy; (3) reactions arising as the result of these treatment methods; (4) comparative therapeutic results—this method compared to current methods as practiced, and (5) list of contributors and list of authors.

Section on Preventive and Industrial Medicine and Public Health

The representative to the Scientific Exhibit from the Section on Preventive and Industrial Medicine and Public Health is Paul A. Davis, Akron, Ohio.

RICHARD A. BOLT, Cleveland Child Health Association, Cleveland:

Education of Expectant Parents: Exhibit showing phases of classes for expectant parents; photographs of typical activities in classes for expectant parents; layette which mothers are taught to make in classes; chart showing reduction of maternal mortality in Cleveland; literature used in the classes.

ROBERT A. KEHOE, University of Cincinnati College of Medicine, Cincinnati:

Lead Poisoning: Exhibit of samples, miniatures, drawings and photographs illustrating sources of exposure; charts demonstrating physiologic reactions to various magnitudes of exposure, diagnostic criteria and methods of recognizing and measuring lead exposures.

W. W. BAUER and P. A. TESCHNER, Bureau of Health Education, American Medical Association, Chicago:

The Doctor's Office—A Health Information Center: Exhibit stressing the importance of the practicing physician and his office as a source of health information in the community. It describes the doctor's function through membership in the county medical society and as a participant in health programs sponsored by the society, including radio talks, addresses to assembled audiences, use of pamphlets, posters and simple visual material in his waiting room. The material which has been developed by the Bureau of Health Education of the American Medical Association as a means of helping doctors in these fields is briefly described.

BRUNO GEBHARD, Cleveland Health Museum, Cleveland:

Better Patients Through Health Education: Exhibit showing that the natural desire of people to know about themselves and their diseases has not been fully satisfied, up to now, by the medical profession and that health education activities must be enlarged in their scope and must be conducted more intensively. In order to keep the confidence of the public, the individual physician should be familiar with the technic of health education. Presentation of the different ways useful in health education (individual consultation, class instruction, information of the masses) and of the means, as the spoken and printed word, with special emphasis on the visual methods (lantern slides, movies, exhibits). Evaluation of the different mediums is based on experience gained at the Cleveland Health Museum.

GORONWY O. BROWN and R. A. MEZERA, St. Louis University School of Medicine, St. Louis:

Epidemiology of Encephalitis: Exhibit of maps and charts showing the seasonal distribution of cases of encephalitis in the United States between the years 1921 and 1938, with particular reference to the location and time of appearance of cases of those types of encephalitis which appear in summer months and such as St. Louis encephalitis and the Western and Eastern types of equine encephalomyelitis. Evidence is presented that simultaneously with the occurrence of epidemics of encephalitis in the vicinity of St. Louis there occurred a marked increase in cases of summer encephalitis in a large part of the United States. The inference is that sporadic cases of St. Louis encephalitis are probably of much wider distribution than is generally considered to be the case.

HOWARD E. SNYDER, Committee on Control of Cancer, Kansas Medical Society, Winfield, and BEN W. LOWTHER, State Board of Health, Topeka:

The Cancer Control Program in Kansas: Exhibit showing the cooperative plan for cancer control evolved by the Committee on Control of Cancer of the Kansas Medical Society, the Kansas State Board of Health and the Kansas Division of the Women's Field Army of the American Society for the Control of Cancer. The program of postgraduate education in cancer

for physicians is outlined. The plan, method and results of an educational program for the public are dealt with. The materials, including lantern slides and film strips, used in public meetings are displayed.

CARL M. PETERSON, Council on Industrial Health, American Medical Association, Chicago.

Industrial Health: Exhibit of charts and posters describing the importance of medical service in industry and means available to industrial physicians to participate in this type of activity.

R. R. SAYERS and H. H. SCHRENK, United States Bureau of Mines, Washington, D. C.:

Respiratory Protective Equipment in Mining and Industrial Work: Exhibit illustrating the correct usage of the various respiratory protective devices and pointing out the limits of their field of use.

E. G. MEITER, Employers Mutual Liability Insurance Company of Wisconsin, Wausau, Wis.:

Scientific Methods of Investigating and Preventing the Various Industrial Diseases and Hazards: Exhibit featuring both medical and engineering methods for the control of health and safety of industrial workers. Engineering control of industrial diseases are illustrated by instruments and devices used for detecting and measuring the toxic agents in air. With this equipment it is possible to collect atmospheric samples of dusts, fumes, vapors and gases in all types of industrial establishments. Representative respiratory protective devices and safety clothing are included. The accident prevention phases of the problem are devoted primarily to an exhibition of model dies designed for the elimination of punch press accidents.

LEWIS GREGORY COLE and WILLIAM GREGORY COLE, John B. Pierce Foundation, New York:

Unorthodox Microscopic Criteria of Silicosis and Gastric Neoplasms: Exhibit showing illustrations of dust with the light and dark fields, and the pathologic changes correlated with the roentgenologic findings.

A. W. SCHOENLEBER, W. J. DENNO, J. A. ADAMS, R. C. PAGE, ALFRED GAGE and T. C. KIENZLE, Standard Oil Company of New Jersey, New York:

Medical Service in Industry: Exhibit of a chart denoting number and distribution of staff; map showing location, medical personnel and number of people cared for during 1940; medical annual report of one subsidiary company for 1940; annual medical statistical report of one subsidiary company for 1940; annual statistical report for all companies which come under the medical supervision of the New York Office for 1940; and a series of charts with photographs and illustrations of industrial medical problems in South America, Netherlands, East and West Indies and other regions.

LOWELL S. SELLING, Psychopathic Clinic, Recorder's Court, Detroit:

Examination and Treatment of the Traffic Offender: Exhibits of transparencies showing (1) the history of the Recorder's Court Traffic Clinic; (2) the route that the patient takes through the various examinations: physical, psychologic, psychophysical and psychiatric; the administrative setup; the special type of examination carried out in the Traffic Clinic: first the physical, second the ophthalmologic, third the psychologic, fourth the psychiatric, and staff conference of the cases.

Section on Urology

The representative to the Scientific Exhibit from the Section on Urology is John H. Morrissey, New York:

W. RAY JONES, King County Hospital System, Seattle:

Microslide Diagnosis of Atypical Gonorrhea: Exhibit showing improved equipment for securing better slides, and illustrations of their use; drawings of elements in the microfield and their interpretations; photomicrographic transparencies showing illustrative fields and interpretations. Irregularities peculiar to each sex are shown.

ROGER W. BARNES, ALBERT F. BROWN and NEWTON EVANS, College of Medical Evangelists, Los Angeles:

Carcinoma of the Prostate—Correlation Between Histopathology and Clinical Course: Exhibit of photomicrographs demonstrating the various histopathologic criteria used in grading the degree of malignancy in carcinoma of the prostate; charts and graphs showing the correlation between these criteria and the clinical course of the patient. The study is based on the material from 100 cases which were followed until death or a survival of five years.

CHARLES HUGGINS, GEORGE GOMORI, C. V. HODGES and W. W. SCOTT, University of Chicago, Chicago:

Phosphatases and Carcinoma of the Prostate Gland: Exhibit showing methods of demonstrating the intracellular distribution of phosphatases; the metabolism of these enzymes and their relationship to carcinoma of the prostate is shown; the endocrine status of prostatic carcinoma and methods of inhibition are presented.

JAMES J. JOELSON and CHARLES L. HUDSON, Medical School, Western Reserve University, Cleveland:

Tumors of the Adrenal Gland: Exhibit showing clinical and diagnostic studies (including pathologic studies) in cases of tumor of the adrenal—cortical adenomas, pheochromocytomas and carcinomas.

HARRY R. TRATTNER, Cleveland City Hospital and Western Reserve University, Cleveland:

Tubuloalveolar Injection of the Prostate by Partition Catheter: Exhibit depicting the apparatus, anatomy concerned, technique and histologic proof of the introduction of solution into the prostatic tree via the duct orifices of the gland. The following may be accomplished by the method: (1) roentgen visualization of the prostate (prostatography), (2) therapy in cases of chronic intractable prostatitis, (3) removal of prostatic secretion at the site of the prostatic duct orifices and (4) aid in diagnosis and treatment of certain lesions of the prostatic urethra. The catheter has been used in 50 cases thus far, and indications and contraindications are given for its use.

CHARLES C. HIGGINS, Cleveland Clinic, Cleveland:

Renal Lithiasis, an Experimental and Clinical Study: Exhibit consisting of transparencies, charts, dietary routines, illustrations in experimental work in the production of the urinary calculi, preoperative investigation, preoperative procedures to be employed and measures to be utilized postoperatively to prevent a recurrence; roentgenograms of a group of patients in whom dissolution of renal calculi has been secured by dietary means.

Section on Orthopedic Surgery

The representative to the Scientific Exhibit from the Section on Orthopedic Surgery is Theodore A. Willis, Cleveland.

CLAY RAY MURRAY and STEPHEN S. HUDACK, College of Physicians and Surgeons, Columbia University and Presbyterian Hospital, New York:

Rigid Internal Fixation in Fractures of the Long Bones: Exhibit demonstrating the rigidity of fixation necessary to allow active mobilization after operative reduction of long bone fractures in the adult, and the material and instruments used to get it; lack of rigidity in many of the forms of fixation commonly used is demonstrated; the effects of active function with rigid and nonrigid fixation in the production of bone absorption about the fixation material is demonstrated in gross specimens, roentgenograms and photomicrographs. The type of apparatus used in mobilization is demonstrated by model.

SAM W. BANKS, Department of Surgery, University of Chicago, Chicago:

Aseptic Necrosis of Femoral Head After Traumatic Dislocation of Hip: Exhibit consisting of roentgenograms of nine cases of traumatic dislocations of the hip which were followed by aseptic necrosis of the femoral head with roentgen changes interpreted in terms of the pathologic alterations; the cases

demonstrate the characteristic clinical, pathologic and roentgenographic features of this condition; a summary of fifty cases in the literature is included, forty-two of which have resulted in deformed and painful hips, emphasizing the importance of prolonged observation of all cases of traumatic dislocations so that the complication of aseptic necrosis can be recognized early before collapse of the head has occurred and which may preclude the possibility of a satisfactory outcome.

R. ARNOLD GRISWOLD, W. B. OWEN, R. T. HUDSON and C. F. WOOD, University of Louisville School of Medicine and Louisville City Hospital, Louisville, Ky.:

Fractures of the Humerus Treated by the Hanging Cast: Exhibit of photographs, anatomic drawings and charts illustrating the treatment of fractures of the humerus with the hanging cast; the simplicity and effectiveness of the method are stressed along with its adaptability to most cases; results in a series of more than 300 fractures are presented.

JAMES A. DICKSON, J. I. KENDRICK, W. JAMES GARDNER, A. T. BUNTS and W. A. NOSIK, Cleveland Clinic, Cleveland:

Thorotrast Myelography for Herniated Disk Localization: Exhibit showing that thorotrast is superior to either air or iodized poppy-seed oil as a medium for roentgen ray visualization of the lumbar spinal canal. It gives a more complete picture and can subsequently be removed by forced spinal drainage; it is probably less irritating than iodized oil and is particularly useful in the study of patients suspected of having a protrusion of the intervertebral disk. In the past three years more than 100 cases were studied by this method at the Cleveland Clinic, and a consecutive series of routine spinograms is presented. A pictorial presentation demonstrates the procedure of injection and the roentgen ray technic. Further illustration shows the method of forced spinal drainage by which it is possible to remove the greater percentage of injected material.

G. E. HAGGART and JAMES W. TOUMEY, The Lahey Clinic, Boston:

Surgical Approach to the Shoulder Joint: An exhibit of colored drawings of the anatomy of various operative procedures in the region of the shoulder joint, with roentgenograms illustrating types of pathologic conditions encountered as well as photographs of the preoperative and postoperative states.

WALTER A. HOYT, ADRIAN E. DAVIS and GEORGE VAN BUREN, Akron Children's Hospital, Akron, Ohio:

The Treatment of Acute Osteomyelitis by Sulfathiazole Without Operation: Exhibit showing roentgenograms of patients with acute osteomyelitis treated by sulfathiazole without operation; the series presents roentgenograms before any bone changes are apparent and at monthly intervals, up to nine to ten months after the onset of the disease; no operative procedure was carried out in any case. Photographs of patients are shown as well as the clinical charts representing temperature curves, blood counts, sulfathiazole blood level and dosage of the drug. Comparative roentgenograms in operative and nonoperative cases are included, as well as additional charts on osteomyelitis, showing the number of patients treated, bones involved and end result studies.

Section on Gastro-Enterology and Proctology

The representative to the Scientific Exhibit from the Section on Gastro-Enterology and Proctology is Sara M. Jordan, Boston.

RICHARD B. CATTELL, N. W. SWINTON and E. D. KIEFER, The Lahey Clinic, Boston:

Complete Colectomy for Intractable Ulcerative Colitis: Exhibit showing the indications for removal of the colon in intractable ulcerative colitis, the operative technic of these procedures, roentgenographic and specimen demonstration of pathologic changes and end results obtained in a series of 35 cases.

JAY M. GARNER and J. PEERMAN NESSELROD, Evanston Hospital and Northwestern University, Evanston, Ill.:

Proctosigmoidoscopic Color Photography: Exhibit of transparencies of the normal appearance of the lower portion of the

sigmoid, rectum and anal canal together with views of the pathologic conditions of these structures; these pictures, obtained through the proctoscope, afford the observer an opportunity to view what the endoscopist sees during a routine examination; charts and posters facilitate an understanding of the equipment used.

ALVIN L. BERMAN, F. S. GRODINS and A. C. IVY, Northwestern University Medical School, Chicago:

The Rationale of Bile Salt Therapy: Exhibit of charts, posters and graphs illustrating the results obtained from the administration of various therapeutic substances such as bile salts, alcohol, cinchophen and others. Correlation of these results with medical problems in liver, gallbladder and biliary tract disease will be made. Roentgenograms of the gallbladder under the action of various emptying substances will be shown. The effect of blood flow on the formation of bile and a model of a thermostromuhr will be demonstrated. There will be a display of all the known and currently used bile salts, both synthetic and naturally isolated.

HENRY A. RAFSKY, Lenox Hill and Beth Israel Hospitals, New York:

Comparative Roentgenographic, Endoscopic and Photographic Studies of the Stomach: Exhibit of a series of roentgenographic, endoscopic and photographic studies of the stomach from patients presenting diagnostic and therapeutic problems; the results of these investigations were compared with the subsequent clinical course as well as the operative and pathologic observations; the methods by which the areas to be photographed were located are described. The photographs were taken in black and white, and in some instances colored photography was employed. The comparative observations and their clinical correlation are illustrated by transparencies describing the case reports; the camera with flexible tube attached is demonstrated.

JEROME M. LYNCH and J. G. HAMILTON, Polyclinic Hospital, New York:

Cancer of the Caudal Bowel: Exhibit depicting forty-nine years' experience with all types of operations for the cure of cancer of the caudal bowel; the relative frequency, sites and pathways of metastatic involvement are shown; the results of the first five years of the Lynch operation are summarized.

Z. BERCOVITZ and M. CHRISTENSEN, New York Post-Graduate Hospital and Medical School, New York:

Chronic Ulcerative Colitis versus Lymphopathia Venereum: Exhibit showing the relationship between chronic ulcerative colitis and lymphopathia venereum, demonstrated by cellular exudate studies in both conditions; the results of intradermal testing of patients (Frei test) with chronic ulcerative colitis using human antigen, mouse brain control and antigen and egg yolk control and antigen are shown, and these are compared with known cases of lymphopathia venereum.

Section on Radiology

The representative to the Scientific Exhibit from the Section on Radiology is S. W. Donaldson, Ann Arbor, Mich.

ROBERT J. REEVES, Duke University, Durham, N. C.:

Bronchomycosis: Exhibit of case histories and roentgenograms of the chests in cases of fungous infections of the lungs. The roentgen diagnosis and short routine of treatment are included.

LOWELL S. GOIN and EUGENE F. HOFFMAN, Los Angeles:

Contact Roentgen Ray Therapy in Cancer of the Bladder: Exhibit of placards giving salient points of methods, photographs of apparatus, photomicrographs of bladder cancers before and after treatment and tabular résumé of fifteen cases treated.

JOSEPH S. BARR, JAMES R. LINGLEY, and EDWARD A. GALL, Massachusetts General Hospital, Boston:

The Effect of Roentgen Ray Irradiation on the Growing Epiphysis, Experimental Observations: Exhibit of roentgenograms, photomicrographs and the like, demonstrating the effect

of varying dosages of roentgen rays on the growing epiphyses of albino rats. The effect on juxtaepiphyseal tissues is also noted.

H. E. KLEINSCHMIDT, National Tuberculosis Association, New York, and S. REID WARREN JR., Moore School X-Ray Laboratory, Philadelphia:

Chest Roentgen Ray Methods: Exhibit showing comparison of various methods of making chest roentgenograms, in private practice and for mass surveys, with brief comments on advantages and disadvantages of each method. The methods included are fluoroscope, single film, stereoscopic films, paper roll, fluorography with 35 mm. film and fluorography with 4 by 5 inch film. Each method will be shown by (a) diagram illustrating the basic physical principles, (b) photograph of the apparatus, (c) actual roentgenograms, (d) brief comments. The roentgenograms and photographs are all of the same patient.

JOHN T. MURPHY and C. E. HUFFORD, Toledo, Ohio:

Bone Tumors: Exhibit of bone abnormality correlating the clinical with the roentgenologic and pathologic changes, showing cases which have been followed either until death or long enough to give reasonable assurance that correct clinical conclusions can be drawn. There are differences between the roentgen and the pathologic diagnoses in some of the cases, and the subsequent clinical course often determined which one was correct; the clinical course is the most important factor in determining the correct diagnosis. Roentgenograms made at frequent intervals allow a study of the changes which occur as the disease progresses or as the condition improves. The original microscopic slides will be available for study.

Section on Anesthesiology

The representative to the Scientific Exhibit from the Section on Anesthesiology is Paul M. Wood, New York.

GEORGE J. THOMAS and GEORGE W. JONES, University of Pittsburgh School of Medicine, St. Francis Hospital and U. S. Bureau of Mines:

Prevention of Explosions of Combustible Anesthetic Agents by the Addition of Helium: Exhibit of graph showing explosive ranges of cyclopropane-oxygen-helium mixtures, ether-oxygen-helium mixtures, ethylene-oxygen-helium mixtures; charts showing the ignition temperature of various combustible anesthetic agents and the limits of flammability of combustible anesthetic agents; graphs showing cyclopropane-ethylene-oxygen mixtures and the flammable limits by static and induction coil spark ignition of cyclopropane-oxygen-helium mixtures.

MEYER SAKLAD, Rhode Island Hospital, Providence, R. I., and W. ALLEN CONROY, Wisconsin General Hospital, Madison, Wis.:

The Punch Card Method for the Collection and Analysis of Surgical and Anesthetic Statistics: Exhibit showing, (1) by the use of diagrams and charts, the reasons why factual data should be recorded and why, by the recording, collection and analysis of data, progress in medicine will result; (2) a step by step explanation of coding, punching and sorting; (3) collected statistics and the role they may play on determining the relative value of anesthetic and surgical procedures.

URBAN H. EVERSOLE, LEO V. HAND and MORRIS J. NICHOLSON, Lahey Clinic, Boston:

Suction Therapy in Prevention and Treatment of Pulmonary Complications: Exhibit of charts, roentgenograms and illustrations demonstrating the etiology of postoperative pulmonary complications, their prevention and treatment by bronchoscopic aspiration and results obtained by such treatment.

THOMAS H. SELDON and JOHN S. LUNDY, Institute of Experimental Medicine, Mayo Foundation and Section on Anesthesia, Mayo Clinic, Rochester, Minn.:

Effect of Certain General Anesthetic Agents on the Small Vessels of the Rabbit's Ear: Exhibit shows (1) the technic of inserting a Clark-Sandison window used in observation of the growth of small vessels in the rabbit's ear (enlarged model shows detail of window); (2) a series of photographs showing

the stages of ingrowth of small vessels into the window at the end of five days, seven days, twelve days, fourteen days and nineteen days, and (3) photomicrographs of arterioles and capillaries taken before and after the animal is placed under the effect of the following general anesthetic agents: pentothal sodium, cyclopropane and oxygen, nitrous oxide and oxygen, ethylene and oxygen, and drop ether.

F. A. D. ALEXANDER, H. E. HIMWICH and VICTOR TOMPKINS, Albany Hospital and Albany Medical College, Albany, N. Y.:

Resuscitation of the Newborn: Pathology and Physiology: Exhibit of (1) demonstrations of the underlying principles of resuscitation for the newborn with particular reference to the complications and limitations of the commonly used procedures; (2) gross and microscopic demonstrations of tissues of newborn infants to illustrate some of the reasons for failure in attempts at resuscitation; (3) charts demonstrating the vital physiology of the newborn with particular reference to their extraordinary tolerance to hypoxia, anoxia and hypoglycemia as compared with the adult.

HENRY S. RUTH, IVAN B. TAYLOR and FREDERICK P. HAUGEN, Hahnemann Medical College and Hospital, University of Pennsylvania Hospital and Presbyterian Hospital, Philadelphia:

Serial Spinal Anesthesia: Exhibit of equipment for doing serial spinal anesthesia and a model to demonstrate the technic of various operative positions; anesthesia records illustrating various applications and the dosages employed; lantern slides will be shown.

HARVEY C. SLOCUM, Wisconsin General Hospital, Madison, Wis.:

Observations on Respiration and Circulation: Exhibit presenting a demonstration of a new automatic recorder for systolic and diastolic blood pressure and a spirometric recording of respiratory rate, tidal volume and oxygen consumption; charts showing synchronous blood pressure and spirometric records of the effects of various sedatives and narcotics, oxygen want, carbon dioxide excess and other physiologic changes.

E. A. ROVENSTINE, STEVENS J. MARTIN and C. L. BURSTEIN, New York University College of Medicine, New York:

Reflexogenic Complications During Anesthesia: Exhibit of charts and model constructed to demonstrate the more significant reflex changes occurring during surgical anesthesia; the influence of premedication, anesthetic agent used, depth of anesthesia and surgical manipulations in the neck, chest and abdomen are presented, and recent laboratory and clinical studies emphasize the effects produced and the therapeutic measures indicated.

MOTION PICTURES

The following motion pictures will be shown in several areas adjoining the exhibit hall continuously throughout the week. Each picture will be shown once each day:

Surgery

R. M. KLEMME, St. Louis:

Surgical Treatment of Paralysis Agitans and Athetosis.

D. HENRY POER, Piedmont Hospital, Atlanta, Ga.:

Peripheral Vascular Conditions Seen in Southern Clinic.

HUGH A. GAMBLE, Gamble Brothers and Archer Clinic, Greenville, Miss.:

Plication Operation for Control of Adhesions and Prevention of Intestinal Obstruction.

GUY W. HORSLEY, St. Elizabeth's Hospital, Richmond, Va.:

Appendicitis, Operative Technic and Results.

K. J. HENRICHSEN, Chicago Municipal Tuberculosis Sanatorium, Chicago:

Surgical Procedures in Treatment of Pulmonary Tuberculosis.

GROVER C. PENBERTHY, Children's Hospital, Detroit:

Treatment of Burns.

HENRY N. HARKINS, Henry Ford Hospital, Detroit:
The Treatment of Burns.

CHARLES GORDON HEYD, New York Post-Graduate Medical School and Hospital, New York:

Subtotal Resection of Thyroid Gland for Hyperthyroidism—Graves' Disease Type.

ALFRED H. IASON, Manhattan General Hospital, Brooklyn:
Embryology, Anatomy and Surgery of Hernia.

RICHARD E. HELLER, Northwestern University Medical School, Chicago:

Varicose Veins and Their Complications.

FRED W. RANKIN, St. Joseph's Hospital, Lexington, Ky.:
Operations for Resecting the Colon.

FRANK H. LAHEY, The Lahey Clinic, Boston:
The Technic of Subtotal Thyroidectomy for Exophthalmic Goiter.

Subtotal Gastrectomy with Antecolic Anastomosis of Large Perforating Duodenal Ulcer with Pyloric Obstruction Adherent to Common Duct.

Subtotal Gastrectomy and Resection of Jejunum with Transposition of the Jejunal Stump and Lateral Anastomosis of the Jejunum to the Right of the Mesenteric Root, for Gastro-jejunal Ulcer Adherent to the Transverse Colon.

HARRY KOSTER, Crown Heights Hospital, Brooklyn:
A Method for Preventing or Diminishing Peritonitis from Leakage After Intestinal Resection of Perforation.

LOUIS RENE KAUFMAN, New York Medical College, New York:

Operation of Appendicocostomy.

WALTMAN WALTERS, HOWARD GRAY and JAMES T. PRIESTLEY, Mayo Clinic, Rochester, Minn.:

Resection of the Stomach for Carcinoma.

Cancer

G. V. BRINDLEY, Scott and White Hospital, Temple, Texas:
Carcinoma of the Large Intestine.

ARNOLD S. JACKSON, Jackson Clinic, Madison, Wis.:
Surgical Treatment of Malignant Diseases of the Gastro-intestinal Tract.

FRANK H. LAHEY, The Lahey Clinic, Boston:
Two Stage Resection of Right Colon for Carcinoma of Cecum.

JEROME M. LYNCH, Polyclinic Hospital, New York:
Cancer of the Caudal Bowel.

FRED W. RANKIN, St. Joseph's Hospital, Lexington, Ky.:
One Stage Combined Abdominoperineal Resection for Carcinoma of the Rectum.

GEORGE T. PACK, Memorial Hospital for Cancer and Allied Diseases, New York:

Groin Dissection for Metastatic Melanoma.

Abdominoperineal Resection of Rectum for Cancer.

Transpleural Resection of Cardia of Stomach and Terminal Esophagus for Cancer.

LOWELL S. GOIN, Los Angeles:
Low Voltage Contact Roentgen Radiation in the Treatment of Cancer of the Bladder.

JOHN H. LAMB, Lain-Eastland-Lamb Clinic, Oklahoma City:
Treatment of Cancer of the Lower Lip by Interstitial Radiation.

G. ALLEN ROBINSON, New York:
The Physics and Therapeutic Uses of Radium.

Plastic Surgery

SAMUEL COHEN, Graduate School of Medicine, University of Pennsylvania, Philadelphia:

Plastic Surgery of Nose and Face.

GEORGE D. WOLF, Metropolitan Hospital, New York:
Rhinoplasty in Relation to Rhinology.

MORTIMER KOPP, Lutheran Hospital, Brooklyn:
Rhinoplastic Procedure.

JAMES BARRETT BROWN, Washington University School of Medicine, St. Louis:

Reconstruction of Cleft Lips.

J. EASTMAN SHEEHAN, New York Polyclinic Medical School and Hospital, New York:

Cinematographic Presentation of Plastic Operations in Natural Colors.

CLAIRE L. STRAITH, Detroit:

Hump Nose Correction.

Saddle Nose Correction.

D. M. GLOVER, St. Luke's Lakeside and City Hospitals, Cleveland:

Repair of the Harclip.

MORTON I. BERSON, Downtown Hospital, New York:
Plastic and Reconstructive Surgery.

GUSTAVE AUFRICHT, New York Post-Graduate Medical School and Hospital, New York:

Correction of Chin Deformities.

Surgical Anatomy

CONRAD J. BAUMGARTNER, Los Angeles:

Surgical Anatomy of the Thyroid.

Surgical Anatomy of the Upper Part of the Neck.

Surgical Anatomy of the Extrahepatic Biliary System.

Surgical Anatomy of the Stomach, Duodenum and Pancreas.

Surgical Anatomy of the Small and Large Intestine.

Surgical Anatomy of the Female Pelvic Organs, Ureters and Bladder.

Surgical Anatomy of the Female Perineum.

Surgical Anatomy of the Breast and Axilla.

Surgical Anatomy of the Arm and Forearm.

Surgical Anatomy of the Hand.

Surgical Anatomy of the Lower Extremities.

Practice of Medicine

NATHAN SMITH, Morrisania City Hospital, New York:
The Education of the Intern.

JOHN D. CURRENCE, New York Post-Graduate Medical School and Hospital, New York:
Technic of Massage.

NORMAN PLUMMER, Cornell University Medical College, New York Hospital, New York:

Pneumonia: Diagnosis and Treatment.

LEANDRO M. TOCANTINS, Jefferson Medical College of Philadelphia, Philadelphia:

Infusion of Blood into the Circulation via the Bone Marrow.

GORDON B. MYERS, FRED MARGOLIS and MUIR CLAPPER, Wayne University College of Medicine, Detroit:

Physical Diagnosis.

WILLIAM B. KOUNTZ and JOHN R. SMITH, Washington University School of Medicine, St. Louis:

Vibrocadiographic and Cinematographic Studies of Myocardial Motions in Normal and Pathologic Conditions.

CLAYTON J. LUNDY, Rush Medical College, Chicago:

Heart Sound Records.

The Common Digitalis Effects on the Electrocardiogram.

Nervous and Mental Diseases

A. E. BENNETT, Bishop Clarkson Memorial Hospital, University of Nebraska, Omaha:

The Technic of Electroencephalography.
New Modifications of Convulsive Shock Therapy.

J. RUDOLPH JAEGER, University of Colorado, Denver:
Intervertebral Disk Injury with Herniation of Nucleus Pulposus.

WALTER FREEMAN, George Washington University, Washington, D. C.:

Agitated Depression Treated by Prefrontal Lobotomy.

HENRY R. VIETS, Massachusetts General Hospital, Boston:
Myasthenia Gravis, the Erb-Goldflam Syndrome.
Myasthenia Gravis, Report of a Case of Dysarthria.

Dermatology and Syphilology

HAMILTON MONTGOMERY, Mayo Clinic, Rochester, Minn.:
Cutaneous Xanthomatosis.

PAUL A. O'LEARY, Mayo Clinic, Rochester, Minn.:
The Dermatosclerotics.

FRANK E. SIMPSON, Chicago:
Radium Treatment of Angiomas.

A. BENSON CANNON, Vanderbilt Clinic, New York:
The Syringe Technic in the Administration of Old Arsphenamine.

The Treatment of Neurosyphilis by Intraspinal Injection of Arsphenaminized Serum—Swift-Ellis.

Common Infectious Diseases of the Skin (lantern slide demonstration).

War Medicine

WALTER M. BOOTHBY, Mayo Clinic, Rochester, Minn.:

Research in Aviation Medicine.
Psychologic Problems in Aviation Medicine.

JOSEPH M. HILL, Baylor University Hospital, Dallas, Texas:
The Preparation of Concentrated Plasma.

GORDON B. NEW and JOHN B. ERICH, Mayo Clinic, Rochester, Minn.:

Immediate and Late Treatment of Traumatic Injuries of the Face.

E. S. GURDJIAN, Wayne University College of Medicine and Grace Hospital, Detroit:

Operative Management of Acute Head Injury.

Urology

FRANK HINMAN, University of California Hospital, San Francisco:

Ureterointestinal Implantation with a Divisible Carrier.

EDWIN DAVIS, Omaha:
The Technic of Perineal Prostatectomy.

WALTER M. KEARNS, Milwaukee:
Testicular Deficiency.

CARLISLE F. SCHROEDER, Charles Godwin Jennings Hospital, Detroit:

Denerivation of the Painful Bladder.

CARL RUSCHE, University of Southern California School of Medicine, Los Angeles:

Radical Operation for the Cure of Rectourethral Fistula Following Perineal Prostatectomy.

J. JAMES DUFFY, Los Angeles:
The Duffy Trocroscope for Suprapubic Cystotomy and Cystoscopy.

ELMER BELT and A. W. FOLKENBERG, Los Angeles:
Perineal Prostatectomy for Benign Hypertrophy.
Radical Perineal Prostatectomy for Malignant Hypertrophy.
Nephropexy.

JAMES T. PRIESTLEY, Mayo Clinic, Rochester, Minn.:

Nephrolithotomy for Staghorn Renal Calculus.
Hydronephrosis (Resection of Renal Pelvis and Reimplantation of Ureter.)

FREDERIC E. B. FOLEY, St. Paul:

Operative Division of the Unilateral Fused Kidney.
Foley Y-Plasty, a New Operation for Relief of Stricture at the Ureteropelvic Junction.

ROGER W. BARNES, College of Medical Evangelists, Los Angeles:

Surgical Treatment of Vesical Diverticula.

Obstetrics

CARL HENRY DAVIS, Wilmington, Del.:

Obstetric and Gynecologic Problems.

W. C. DANFORTH, Evanston Hospital, Evanston, Ill.:
Total Abdominal Hysterectomy—Three Cases.

I. C. RUBIN, New York:
Uterotubal Insufflation: A Test for Tubal Patency in Sterility.

E. H. KLOMAN, Maryland General Hospital, Baltimore:
Operative Repair of Vesicovaginal Fistula.

Miscellaneous Subjects

EDWIN N. BROYLES, Johns Hopkins Hospital, Baltimore:
Laryngectomy, Crowe-Broyles Technic.

ROBERT HENNER, Illinois Eye and Ear Infirmary, Chicago:
Hearing Tests (slide films with sound).

ANTHONY P. GULOTTA, New York:
Artificial Pneumothorax in the Treatment of Pulmonary Tuberculosis.

ADOLPH A. SCHMIER, Hospital for Joint Diseases, New York:
A Muscle Tester for Poliomyelitic Patients.

LEWIS GREGORY COLE, St. Agnes Hospital, White Plains, N. Y.:
Unorthodox Microscopic Criteria of Silicosis and Gastric Cancer.

HOWARD E. SNYDER, Winfield, Kan.:
The Ambulatory Management of Fractures of the Lower Extremities.

J. E. M. THOMSON, Lincoln, Neb.:
Fractures of the Patella (Treated by Plastic Repair of Tendon).

JAY M. GARNER and J. PEERMAN NESSELROD, Evanston Hospital, Evanston, Ill.:
Proctoscopic Cinematography.

GARNET W. AULT, Washington, D. C.:
Resection of Polyp by Sigmoidotomy.

L. W. SAUER, The Cradle, Evanston, Ill.:
The Cradle.

PHILLIPS THYGESON, Institute of Ophthalmology, Presbyterian Hospital, New York:
The Bacteriologic Diagnosis of Ocular Diseases.

LOUIS LEHRFELD, Wills Eye Hospital, Philadelphia:
Corneal Episcleral Sutures in Cataract Extraction.

ALVAN L. BARACH, Columbia Presbyterian Medical Center, New York:
Effect of Equalizing Thoracic Pressure, Oxygen and Helium on Respiratory Movement.



NEWER DRUGS
LATEST BOOKS
IMPROVED APPARATUS
AND INSTRUMENTS
SPECIAL FOODS
MEDICAL SUPPLIES

Today almost every one senses the vital importance of close cooperation between science and industry. Medicine is no exception. A new development emerges from the test tube—or reveals itself under the microscope—or rises up from painstaking clinical investigation. But to make such a development of practical value and generally available to physicians, the understanding cooperation of industry is needed.

The Technical Exposition in the main Exhibit Hall of Cleveland Auditorium will present the outstanding results of this cooperation between medical science and medical industry. Here the physician will find the most important contributions of more than 200 firms presented for his consideration—Apparatus and Instruments, Diagnostic Equipment, Dietetic Products, Hearing Aids, Medical Books, Office Furniture, Optical Instruments, Pharmaceuticals and Biologicals, Physical Therapy and X-Ray, Special Apparel, Surgical Supplies, Toilet Preparations, X-Ray Supplies, and Miscellaneous.

With this vast array of equipment and supplies displayed in attractive booths, by courteous, specially informed attendants, with Registration Headquarters, U. S. Post Office, and Visitors' Lounges in the same hall, the visiting physician will find it profitable, pleasurable, and stimulating to spend adequate time in Exhibit Hall.

Exhibitors will be there to give information, to serve their medical friends, rather than to exert high pressure sales efforts. No visitor should hesitate to stop at any exhibit and ask questions.

The Exposition will be open each day from 8:30 a. m. to 6:00 p. m. It will close Friday at noon. To show the highlights of The Technical Exposition, and to give a general idea of what may be found in each booth, browse through the following pages which contain brief descriptive items under each firm name.

WILL C. BRAUN, *Director of Exhibits*

APPARATUS AND INSTRUMENTS

A. S. ALOE COMPANY
Booths 287, 288, 289

The exhibit will present a complete line of American-made stainless steel and chrome surgical instruments. Aloe Steel-line Furniture for the physician will also be featured. Specialties will include the Aloe Diagnostic X-Ray, new models of Aloe Short Wave apparatus, an improved electrocardiograph and many other new items. A special display of clinical laboratory apparatus and supplies will be offered.

AMERICAN CYSTOSCOPE MAKERS, INC.
Booth 284

A cordial invitation is extended to doctors to visit this modern display of A. C. The latest in modern and operating instruments, including the Rud-dock Peritoneoscope, the Wappler Cold Cautery Scalpel, the new Wappler Surgical Unit, and the new Nylon Woven Catheters. Made in America, these ureteral x-ray and non-x-ray catheters are boilable and may also be autoclaved.

AMERICAN SAFETY RAZOR CORPORATION
Booth 167

For complete information on A.S.R. Surgeon's Blades visit the booth. Meet the company representatives, who, can answer questions about these Surgeon's Blades. They will gladly explain the various uses of the blades—9 types in all.

(Continued on next page)

AMERICAN STERILIZER COMPANY
Booth 144

A display of typical modern office types of sterilizers will appear in this exhibit. Attendants will be on hand to welcome you and discuss the equipment with you.

BARNETT LABORATORIES
Booth 473

In addition to their regular line of clinical photographic apparatus, the Barnett Laboratories will exhibit a new low priced stereo eye camera. Owners of Leica, Contax, Exakta, and other cameras are invited to stop at the booth, and see how these cameras can be easily and economically adapted for clinical photography by using Barnett's Synchronized Flood Lighting System.

CAMERON SURGICAL SPECIALTY CO.
Booths 128 and 411

Here visitors may see the new Cameron-Schindler Flexible Gastroscope, the Color-Flash Clinical Camera, the Projecto-ray, the Mirro-lite and latest developments in electrically lighted diagnostic and operating instruments for all parts of the body. Of special interest will be the new inexpensive office model Radio Knife, Combination Spark Gap and Tube Electro-Surgical Unit, and other electro-surgical units for cutting, coagulating, desiccation, fulguration and ultraviolet therapy in all sizes.

WILMOT CASTLE COMPANY
Booth 304

During these days of increasing demands upon medical men, modern sterilizing and lighting equipment will help promote efficiency. A complete exhibit of the Castle sterilizers and lights for offices, clinics and industrial first-aid rooms will be shown at the exhibit.

CAYO COMPANY
Booth 114

All surgeons, particularly those interested in bone surgery, will be welcome to any information that can be given regarding the use and care of Cayo Bone Instruments. An attendant will be present at all times to demonstrate the instruments and distribute literature.

CRESCENT SURGICAL SALES CO., INC.
Booth 156

When you visit the miniature operating room at the Crescent exhibit, you will find every piece of equipment built to scale, including the operating room, nurse and surgical staff. Ask for your souvenir knife—made with a standard Crescent detachable surgeon's blade—and presented to you as visible evidence that Crescent surgeons' blades have sharper cutting edges, one-third more steel, balanced weight distribution.

FOREGGER COMPANY, INC.
Booth 135

On display for Foregger is their resuscitation and anesthesia apparatus, including the O.F. type anesthesia apparatus. You will find some interesting equipment worth your investigating at this booth.

L. G. GALBRAITH
Booth 515

General practitioners will be interested in this exhibit of the Ross Circumcision Ring, a new development which simplifies the operation, tends to prevent postoperative bleeding and adhesions, to minimize distress and improve cosmetic results. You are invited to discuss this new method with the representative in charge of the exhibit.

GOMCO SURGICAL MFG. CORP.
Booth 320

The Gomco Corporation will exhibit their new line of Underwriters approved suction and other units, their new centrifuges and their new thermotic bladder drainage units, breast pumps, circumcision and umbilical clamps.

KITCHEN KATCH-ALL CORPORATION
Booth 162

In this exhibit may be seen a demonstration of the Baby-All Formula Sterilizer Outfit, a miniature hospital outfit easily operated by mothers. Also on display will be the new model Vapor-All Vaporizer

Humidifier, with special emphasis on the All-Nite model, which operates continuously for twelve hours.

V. MUELLER & COMPANY
Booths 215 and 216

This exhibit will present a complete line of fine American made, stainless steel instruments for various specialized branches of surgery. Several new Mueller specialties will be shown.

PELTON & CRANE COMPANY
Booth 166

All popular models featured by this company, inch office autoclave, Also, the regular lin sterilizers, office lights and cuspidors.

PROMETHEUS ELECTRIC CORP.
Booth 478

A wide range of infra-red lamps, operating lights, sterilizers and autoclaves will be displayed by Prometheus. Especially worthy of note is the revolutionary new "Space Saver" Cabinet Sterilizer, scientifically designed for the professional office.

RITTER EQUIPMENT COMPANY, INC.
Booth 302

In its second appearance at an A. M. A. Convention, the Ritter Company will show the following new items: surgical cuspidor, bone surgery engine, and a redesigned ENT Unit. Other articles to be shown include: sterilizers, compressors, fluorescent lights, x-rays, ENT chairs and stools. Improved models of products shown last year will also be displayed.

SAFETY GAS MACHINE CO., INC.
Booth 112

Latest McCurdy and Augustana models will be shown here. These machines are Council accepted. The exhibit will be in charge of an experienced anaesthetist who invites consultation on anaesthetic problems.

SCANLAN-MORRIS COMPANY
Booths 139 and 140

Of special interest to surgeons will be the demonstrations of a new operating table for general surgery, also a new raise-and-lower obstetric table built with disappearing leg section which permits quick adjustment to delivery position. Surgical lights, portable and ceiling-hung models, sterilizers, SterilBrite aluminum surgical furniture, and Stille Swedish-made surgical instruments will also be exhibited.

J. SKLAR MANUFACTURING CO.
Booth 256

Visitors will find here a comprehensive exhibit of new suction and pressure apparatus, including the Improved Tompkins Portable Rotary Compressor, the DeLux Tompkins, the new Imperator Apparatus for ear, nose and throat, Ralk's Ideal Unit and Moorhead Unit for office and clinic, and the new hospital model of the Bellevue Suction and Pressure Unit. In addition, a complete display of Sklar's American made stainless steel surgical instruments will be shown.

U. M. A., INC.
Booth 103

U. M. A. will show the new improved Collwill Intermittent Venous Occlusion Apparatus—the original apparatus devised by Drs. Collens and Wilensky. Also, U. M. A. is showing the Collens Syhgyomo-Oscillometer, a diagnostic instrument which combines a sphygmomanometer with an oscillometer.

UNION CARBIDE COMPANY
Booth 251

On display will be Linde Oxygen U.S.P., the Linde R-50 Oxygen Therapy Regulator, and the Linde L-14 Oxygen Therapy Station Flow-meter, also various types of small portable oxygen administering apparatus. Representatives will discuss the latest developments in oxygen therapy, and provide information on the mechanical and management aspects of administering oxygen in the hospital or the home. Reprints of several recent articles on the subject from leading medical journals will be available.

**W. A. BAUM COMPANY, INC.**
Booth 471

The makers of Baumanometer will exhibit various models of blood pressure apparatus, featuring the new Standby, a practical floor model. A complete line of genuine Latex replacement parts will also be displayed.

BECTON, DICKINSON & COMPANY
Booths 267, 268, 269

The making of hypodermic syringes and thermometers will be demonstrated, and visitors may see complete lines of syringes, needles, thermometers, aseptic syringes, Ace Bandages and diagnostic instruments. A new line of blood pressure instruments for the physician and hospital will be featured, with demonstrations and descriptions of new techniques in elastic adhesive therapy.

CAMBRIDGE INSTRUMENT COMPANY, INC.
Booth 311

A new Cambridge development will be shown this year. In addition to the full line of card, including the ble model for both office will exhibit a new portable instrument which automatically indicates and records blood pressure and provides a continuous record where desired.

CLAY-ADAMS COMPANY
Booth 484

Two main divisions spotlight this exhibit. First, anatomical models, OB manikins, charts, and skeletons, with a special muscle skeleton prepared by Clay-Adams, and the improved Ayers obstetrical manikin. Second, new developments in surgical, laboratory and clinical equipment, including the latest developments in Bilumen Gastro-Duodenal tubes for gastro-enterostomy and gastro-duodenal aspiration and a new counting device for differential blood counts.

FRÖBER-FAYBOR COMPANY
Booth 501

This exhibit will present the company's latest Model G Bio-photometer, embodying a new feature which eliminates the subjective character of the dark adaptation test. The use of the Bio-photometer as a clinical test for vitamin A deficiency will be demonstrated. New experimental instruments of interest to physicians will also be found here.

★ **Exhibitors** ★

Abbott Laboratories, No. Chicago.....206-7
Agfa Ansco, Binghamton, N. Y.....490
Allergen-Proof Encasings, Inc., Cleveland.....242
Allergia Products Co., Newton, Mass.....409
Allison Company, W. D., Indianapolis.....271
Almay Pharmaceutical Corp., N. Y. C.....231
Aloe Company, A. S., St. Louis.....287-8-9
American Can Company, N. Y. C.....263-264
Amer. Com. on Maternal Wel., Inc., Chicago.....438
Amer. Cystoscope Makers, Bronx, N. Y.....284
Amer. Hosp. Supply Corp., Chicago.....234
Amer. Inst. of Baking, N. Y. C.....150
Amer. Med. Ass'n.....487-8
Amer. Nurses' Ass'n.....
Amer. Op. Co., South
Amer. Physicians' Ass'n
Amer. Safety Razor
Amer. Seal-Kap Corp.,

Amer. Sterilizer Co., Erie, Pa.....144
Appleton-Century Co., D., N. Y. C.....437
Arlington Chem. Co., Yonkers, N. Y.....238
Armour Labs., U.S. Yards, Chicago.....303
Aurex Corp., Chicago, Ill.....514
Aznoe's Nat'l. Phys. Exch., Chicago.....255
Baker Laboratories, Cleveland, O.....439
Bard-Parker Co., Inc., Danbury, Conn.....181
Barnett Laboratories, Chicago.....473
Barry Allergy Labs., Inc., Detroit, Mich.....130
Baum, Co., Inc., W. A., N. Y. C.....471
Bausch & Lomb, Rochester, N. Y.....469-70
Beauty Counselors, Inc., Detroit, Mich.....240
Beck-Lee Corp., Chicago.....428
Becton, Dickinson & Co., Ruth'd, N. J.....267-8-9
Bedford Surg. Co., Inc., Brooklyn, N. Y.....141-2-3
Beech-Nut Pack. Co., Canajoharie, N. Y.....121-3

GASTRO-PHOTO LABORATORIES
Booth 457

This display will be of interest to physicians interested in complete and accurate diagnosis of gastric pathology. For the first time, the new automatic stomach camera for col development in ment, will be large number o gastrophotographs in natural color and black and white.

JONES METABOLISM EQUIPMENT CO.
Booth 177

In this exhibit you will see in operation the Jones Motor Basal metabolism unit. Representatives will explain the automatic correction of oxygen gas to standard volume at temperature regardless of barometer, the protractor for revealing technical errors and the Automatic Basal metabolism calculator.

LAMOTTE CHEMICAL PRODUCTS CO.
Booth 102

Among the new items which will be demonstrated at the LaMotte exhibit will be Blood Chemistry Units, Falling Drop Densimeter for determining blood proteins and specific gravity of body fluids, the outfit for determining both sugar and albumin in urine, and the Combination Unit for determining sulfathiazole, sulfapyridine and sulfanilamide in blood and urine. Physicians are cordially invited to call and inspect this equipment.

SANBORN COMPANY
Booth 498

Here you can see recent developments in modern, compact, apparatus for clinical electrocardiography. You are invited to discuss this equipment with representatives at the exhibit.

TAYLOR INSTRUMENT COMPANIES
Booth 274

The new Tycoos Hook Type Blood Pressure Cuff will be exhibited at the Taylor Instrument booth. This new cuff can be used with any type sphygmomanometer. Also on display will be the Pavax Glass Boot for the treatment of frost-bite, gangrene and other vascular diseases, and the Binoce fever thermometer.



AMERICAN CAN COMPANY
Booths 263 and 264

Registrants are cordially invited to visit these booths where information will be available concerning some aspects of commercially canned foods of interest to the medical profession. The American Can Company's modern, single-service, paper milk container will also be featured.

AMERICAN INSTITUTE OF BAKING
Booth 150

Facts about the new "Enriched Bread" will be available at the Institute's booth. This new white bread, enriched with vitamins and minerals natural to whole wheat, has been developed by American bakers and is considered a practical contribution to national defense and public health.

AMERICAN SEAL-KAP CORPORATION
Booth 465

Seal-Kap presents Enzy-lac, a fresh pasteurized milk of low curd tension and of remarkably easy digestibility. Step into the booth, and note that this milk is unchanged in taste, appearance, mineral content and caloric value. Learn how it solves the problem of milk digestibility for infants, premature and others.

BAKER LABORATORIES
Booth 439

Baker's complete line of infant foods, indicating some new trends in infant feeding, will be on display. These three will be included: Modified Milk, powder and liquid, a completely prepared milk in which composition has been so altered and adjusted as to closely simulate breast milk; Melcoose, a completely prepared milk; Melodex, maltose and dextrin, made for modifying milk.

BORCHERDT MALT EXTRACT COMPANY
Booth 134

Members of the staff will be present at the booth this year to greet their many personal friends and discuss new developments in the Borchardt line, including improvements in Malos, their product for infant feeding.

BORDEN COMPANY
Booths 209, 210, 211

A visit to the Borden Booths will acquaint you with Biolac, that popular liquid infant food designed to give the artificially fed baby both the nutritional and digestional advantages of the breast-fed. Also exhibited will be: Dryco, Beta Lactose, Klim, Merrel-Soule Products and Irradiated Evaporated Milks.

CARNATION COMPANY
Booth 483

In this exhibit you will see a quick, complete and dramatic presentation of the story of Carnation Milk. Every operation in the processing of Irradiated Carnation Milk—from farm to finished product—is performed right before your eyes. You will be interested in this personally conducted tour through a Carnation evaporating plant.

CEROPHYL LABORATORIES
Booth 441

The cereal grass product that attracted so much attention at previous meetings is being exhibited again this year. A cordial invitation is extended to visit the booth. Representatives will be glad to discuss the value of Cerophyl in special and therapeutic diets.

CITRUS CONCENTRATES, INC.
Booth 163

Refreshment has been prepared for visitors to the Citrus Concentrates booth. Sunfilled pure concentrated orange and grapefruit juices in ready-to-serve form will be offered by attendants.

HAROLD H. CLAPP, INC.
Booth 145

Clapp's new Cereal Food will be the subject of conversations with visiting physicians at the booth. This dry precooked infant cereal has just been introduced in many sections of the country and is probably news to a large number of attending doctors. There will also be several recently added strained and junior foods on display at the booth.

CORN PRODUCTS REFINING COMPANY
Booth 208

Make this exhibit a "must" on your itinerary. "Corn Products" has an effective display telling the vital facts about dextrose food-energy sugar and its place in the medical field.

DIETENE COMPANY
Booth 432

Here's your opportunity to have Dietene explained and to secure detailed analysis. Know why you can confidently recommend it as a dietary supplement. This special purpose low caloric food is said to take the counting out of calories. Plan to call at the Dietene booth.

FLORIDA CITRUS COMMISSION
Booth 122

This exhibit will feature both fresh and canned Florida citrus fruits. The Commission is a state body, functioning under state laws designed to regulate and promote the citrus industry for the benefit of consumers and growers.

GENERAL FOODS CORP.
Booths 222, 455, 456

Postum is being served at booths 455 and 456. This wholesome cereal beverage is made from whole wheat and bran, roasted and slightly sweetened. On display in two forms—Postum Cereal made like coffee and Instant Postum made instantly in the cup or pot. Postum-made-with-milk is an easy way to keep milk interesting. Pause for Postum! Delicious, economical, easy to prepare!

Stop at booth 222 and have a cup of delicious Sanka Coffee. This choice blend of Central and South American coffees has 97% of the caffeine removed.

GENERAL MILLS, INC.
Booth 442

A display featuring the manufacture of A.R.P.I. Process Vitamin D is an attraction at this booth. You will see how vitamin D is produced by activation of ergosterol with low velocity electrons. Other General Mills products will also be exhibited.

GERBER PRODUCTS COMPANY
Booth 297

The complete line of Gerber Baby Foods will be on display—dry pre-cooked cereal and fifteen strained foods. Booklets for distribution to mothers or patients on special diets, as well as professional literature, will be sent to registrants.

CHRIS HANSEN'S LABORATORY
Booth 253

Rennet-custards made with either "Junket" Rennet Powder, or "Junket" Rennet Tablets will be served at their booth by "The Junket" Folks." Besides the display of "Junket" Brand Food Products, the exhibit will feature enlarged photographs showing how the rennet enzyme in rennet-custards transforms milk into soft, fine curds. Fully informed attendants will be on duty.

HAWAIIAN PINEAPPLE COMPANY
Booth 413

Again this year chilled Dole Pineapple Juice from Hawaii will be served to Convention guests. This pure, unsweetened fruit juice and the canned fruit items of the Dole line will be found at the booth.

H. J. HEINZ COMPANY
Booths 275 and 276

The attractive presentation of Heinz Strained and Junior Foods merits your attention. Interesting new charts and photographs will tell the story of the contribution of these products to the welfare of American babies. You will want to visit the exhibit and register for a beautiful baby picture, suitable for framing, also the new edition of the Nutritional Charts and Nutritional Observatory.

IRRADIATED EVAPORATED MILK INSTITUTE
Booth 410

Some interesting facts about irradiated evaporated milk will be heard by visitors here. Representatives from the Institute office will discuss with you the many uses of irradiated evaporated milk in the dietary. Free publications and reports of clinical research by leading investigators will be on display for your inspection or use.

★ *Exhibitors* ★

Bell & Howell Co., Chicago.....	489-91
Best Foods, Inc., N. Y. C.....	273
Billhuber-Knoll Corp., Orange, N. J.....	233
Birtcher Corp., Los Angeles, Calif.....	176
Blakiston Co., Philadelphia.....	309
Borchardt Malt Extract Co., Chicago.....	134
Borden Co., N. Y. C.....	209-10-11
Buck N-Ograph Co., St. Louis, Mo.....	502
Burdick Corp., Milton, Wis.....	283
Cambridge Instr. Co., Inc., N. Y. C.....	311
Cameron Surg. Specialty Co., Chicago.....	128 & 411
Camp & Co., S. H., Jackson, Mich.....	321
Canadian Radium & Uranium Corp., N. Y. C.....	151
Carnation Company, Milwaukee.....	483
Cash, Inc., J. & J., S. Norwalk, Conn.....	160
Castle, Wilmet Co., Rochester, N. Y.....	304
Cayo Co., San Antonio.....	114

Cerophyl Labs., Kansas City, Mo.....	441
Cheney Chemical Co., Cleveland.....	132
Church & Dwight Co., Inc., N. Y. C.....	239
Ciba Pharma. Prods., Summit, N. J.....	126-7
Citrus Concentrates, Inc., Buffalo, N. Y.....	163
Clapp, Harold H., Inc., Rochester, N. Y.....	145
Clay-Adams Co., Inc., N. Y. C.....	484
Collins, Inc., Warren E., Boston.....	316
Conformal Footwear Co., St. Louis, Mo.....	305
Coop. Med. Adm. Bureau, Chicago.....	485
Corn Prods. Refining Co., N. Y. C.....	208
Crecent Surg. Sales Co., Inc., N. Y. C.....	156
Cutter Labs., Berkeley, Calif.....	433
Davies, Rose & Co., Ltd., Boston, Mass.....	462
Davis Company, F. A., Philadelphia, Pa.....	259
Davis & Geck, Inc., Brooklyn, N. Y.....	200-200A
Day's Ideal Baby Shoe Co., Danvers, Mass.....	412
DePuy Mfg. Co., Warsaw, Ind.....	474-5

LEDERLE LABORATORIES, INC.

Booth 480

General practitioners will be interested in this exhibit of "Cerevim" recently acquired by Lederle. Literature and general information will be available through staff attendants and, to acquaint doctors with the appetizing flavor of "Cerevim," a uniformed nurse will invite them to sample it, complete with sugar and cream.

LIBBY, McNEILL & LIBBY

Booth 291

You are cordially invited to visit Libby, McNeill & Libby's exhibit, where attendants will point out the merits of homogenized baby foods, chopped foods and evaporated milk. Visitors will also hear why Libby's special method of homogenization makes their baby foods extra smooth, extra easy to digest.

M & R DIETETIC LABORATORIES

Booth 466

Similac, a completely modified milk specially prepared for infants deprived either partially or entirely of breast milk, will be featured by M & R Dietetic Laboratories, Inc. Competent representatives will be pleased to discuss the value of the zero curd tension of Similac as it applies to both normal and special feeding cases, or to answer any related questions.

MEAD JOHNSON & CO.

Booths 157, 158, 204, 443, 444, 493, 493A

A cordial welcome to the Mead Johnson exhibits this year will be reinforced by the interesting motion picture program to be shown in their space 493-A.

MELLIN'S FOOD COMPANY

Booths 400 and 401

Physicians are cordially invited to call and make inquiries regarding details of the composition and application of Mellin's Food. During the seventy-five years of its existence, Mellin's Food has established itself as worthy of consideration in attempts to arrange diets for infants, children, and, in certain cases, adults.

MULLER LABORATORIES

Booth 460

A display of the soy bean and some of its products has been arranged for you in this exhibit. The use of Mull-Soy in cases of milk allergy will be demonstrated, and representatives will be prepared to answer physicians' questions regarding this interesting product.

NATIONAL LIVE STOCK AND MEAT BOARD

Booth 494

Meat will be portrayed by this exhibit as a source of essential food elements—protein, fats, carbohydrate, calcium, phosphorus, iron, copper and six vitamins with special emphasis on vitamin B₁ (thiamine). The newly revised third edition Food Value Charts in colors, and booklets containing these charts will be available.

NESTLE'S MILK PRODUCTS, INC.

Booth 258

Lactogen will hold the center of the stage in the Nestlé exhibit. A cordial invitation is extended to all physicians to visit the booth.

PENICK AND FORD, LTD., INC.

Booth 123

The makers of Brer Rabbit Molasses invite your consideration of new findings on this rich and inexpensive source of iron. Results of chemical, biological and clinical research will be on exhibit at the booth. Significant is the conclusive demonstration of high availability (over 80%) of molasses-iron, which establishes New Orleans Molasses as second only to beef liver as a food source of absorbable iron.

S-M-A CORPORATION

Booth 260

The infant Food Division will display all products, including S-M-A Powder and Liquid, Hypo-Allergic Milk and Alerdex. New and useful literature on infant nutrition will be available. The Biochemical Division will show many of the recent developments in nutrition such as demonstrations of deficiency diseases in experimental animals. With various nutritional too, you of clinical results obtained in specific deficiency diseases in human subjects.

PET MILK CORPORATION

Booths 422, 423, 424, 425

This exhibit offers an opportunity to obtain information about the production of Irradiated Pet Milk and its uses in infant feeding and general dietary practice. You are invited to inspect the various interesting features of this display.

SCIENTIFIC SUGARS COMPANY

Booth 234

Here the maker will display Carlose, Hixid, and the line of Kinney's Yeast Extract preparations. Well informed representatives will be in attendance. All physicians are cordially invited to stop at the booth.

SUN-RAYED COMPANY

Booth 278

A special welcome awaits visitors to the Sun-Rayed booth. Demonstrators will offer samples of the natural, pasteurized juice of a new strain of Indiana tomatoes, sun-ripened on the vines and U. S. Government graded.

VEGEX, INCORPORATED

Booth 244

Featured in this exhibit will be the results of experimentation plus published reports of research, showing what Vegex contributes in raising the red blood cell count and hemoglobin percentage. Simple ways of serving Vegex will be demonstrated.

UNITED FRUIT COMPANY

Booth 257

The latest authentic information on the nutritive and therapeutic values of the banana will be available at this exhibit. The display will present some of the important clinical and nutritional studies which have been undertaken the past few years, and reports of these which have recently been published.

**AUREX CORPORATION**

Booth 514

Information about the eight standard instruments to compensate for the several prevalent types of deafness will be available to doctors at the Aurex exhibit. Representatives will also be glad to tell you about instruments especially designed for individual cases.

MAICO COMPANY, INC.

Booths 517 and 518

A free pocket flashlight suitable for medical work will be offered by the Maico Company to registering physicians. Against the unusual background of its "Tone Color Organ," on which all visitors can check their own hearing acuity for pitch and sensitivity, Maico will display its line of Council accepted audiometers, and new developments in tiny vacuum tube hearing aids. Other interesting electronic instruments on display will be "lie detectors," Psychometers and electro-stethoscopes.

OTARION, INC.

Booth 133

The merchandising plan of this manufacturer of fine hearing aids will be of interest to physicians and otologists. Full details of this new plan will be available at the Otation exhibit.

**Exhibitors**

Devereaux Foundation, Devon, Pa.....	452
DeVilbiss Co., Toledo, Ohio.....	110
Dietene Co., Minneapolis, Minn.....	432
DoMore Chair Co., Inc., Elkhart, Ind.....	426
Drug Products Co., Inc., L. I. City, N. Y.....	431
Duke Labs., Inc., Stamford, Conn.....	487
DuPont Film Mfg. Corp., N. Y. C.....	165
E & J Co., Glendale, Calif.....	454
Earnshaw Knitting Co., Newton, Mass.....	161
Eastman Kodak Co., Rochester, N. Y.....	477
Emerson Co., J. H., Cambridge, Mass.....	417-18
Endo Prods., Inc., Richmond Hill, N. Y.....	416
Fischer & Co., H. G., Chicago, Ill.....	290
Fisher-Stevens Service, Inc., N. Y. C.....	472
Flint, Eaton & Co., Decatur, Ill.....	147
Florida Citrus Comm'n., Lakeland, Fla.....	122

Foley Mfg. Co., Minneapolis, Minn.....	245
Foregger Co., Inc., N. Y. C.....	135
Fraser-Faylor Co., Chagrin Falls, Ohio.....	501
Galbraith, L. G., Portland, Ore.....	513
Gastro-Phot Labs., N. Y. C.....	457
General Elec. X-Ray Corp., Chicago, 247-8-9-250	
General Foods, N. Y. C.....	222-453-6
General Mills, Inc., Minneapolis.....	442
Gerber Prods. Co., Fremont Mich.....	297
Gomez Surg. Mfg. Corp., Buffalo, N. Y.....	320
Gradwohl Labs., St. Louis, Mo.....	461
Hamilton Mfg. Co., Two Rivers, Wis.....	106-7-8-9
Hanovia Chem. & Mfg. Co., Newark, N. J.....	251
Hansen's Lab., Inc., Chr., Little Falls, N. Y.....	253
Havallan Pineapple Co., San F., Calif.....	413
Heinz Co., H. J., Pittsburgh.....	275-6

MEDICAL BOOKS**D. APPLETON-CENTURY**

Booth 437

Prominent in this display will be the following new titles: Blumer's four volume Therapeutics of Internal Diseases, Bancroft's Surgical Therapeutics, new supplementary volume of the Practitioners Library of Medicine and Surgery, Maingot's Abdominal Operations. These newly revised editions will appear: Stander's eighth edition, Williams' Obstetrics; Holt and McIntosh's eleventh edition, Diseases of Infancy and Childhood; Kolmer and Boerner's third edition, Approved Laboratory Technique; Yater's Fundamentals of Internal Medicine; Albee's Bone Graft Surgery; and Burstein's Illustrative Electrocardiography.

BLAKISTON COMPANY

Booth 309

This company will exhibit its complete line of medical texts and references. Among the new books and new editions will be: Jason, Hernia; Wolff, Anatomy of the Eye and Orbit; Halliburton & McDowell, Handbook of Physiology and Biochemistry, 36th edition; Strecker & Ebaugh, Practical Clinical Psychiatry, fifth edition; Robson, Recent Advances in Sex and Reproductive Physiology; Mennell, Physical Treatment by Movement, Manipulation and Massage, fourth edition; Iselin, Surgery of the Hand.

F. A. DAVIS COMPANY

Booth 259

You will probably want plenty of time to look over these publications: Stroud's Cardiovascular Disease, translated into Spanish and Portuguese; Loewenberg's Clinical Endocrinology; Goldberg's Clinical Tuberculosis; Lederer's Ear, Nose and Throat; Piersol's Cyclopedia of Medicine, Surgery and Specialties; Loewenberg's Medical Diagnosis and Symptomatology, fifth edition, revised and entirely rewritten; Reimann's Treatment in General Medicine, and its 1941 Progress Volume.

PAUL B. HOEBER, INC.

Booth 315

Some 200 medical titles will attract visitors to the Hoerber booths. New works to be seen there include Pardee's Electrocardiogram, new fourth edition; Mazer and Israel's Menstrual Disorders; Nielsen's Neurology; Harris's Brucellosis; Henry's Sex Variants; Weisman's Spermatozoa and Sterility; Margolis' Arthritis; Alvarez' Gastro-enterology, and many others.

LEA & FEBIGER

Booth 314

New works awaiting your examination here include Portis' Digestive Diseases, Kraines' Psychoses, Katz' Electrocardiography and Exercises, Lewin's Foot and Ankle, Ballenger's Manual, Rony on Obesity and Leanness, Packard Hayes and Blanchet on Artificial Pneumothorax and Adair's Obstetrics and Gynecology. New editions of many standard books will be shown, among them Joslin's Diabetes and Manual Helmer and Ruggles' Roentgenology, Haden's Contagious Diseases and Comroe's Arthritis.

J. B. LIPPINCOTT COMPANY
Booths 295 and 296

A number of new Lippincott books of interest to physicians will be displayed: Grollman's Essentials of Endocrinology and Tobias' Essentials of Dermatology, Leamr Cardiac Patient, Modern Surgical of Kracke's Diseases of the Blood and Atlas of Hematology, Goldthwait's Body Mechanics and other important titles will also be shown.

LITTLE, BROWN & COMPANY
Booth 129

The recently added Medical Book Department of Little, Brown will bring to their exhibit works by such men as Emil Novak, Jonathan Meakins, Soma Weiss, Davis Perla, Burton Hamilton, K. Jefferson Thomson, and E. Granville Crabtree.

MACMILLAN COMPANY
Booth 467

The center of interest at the Macmillan booth will be the much discussed Pharmacological Basis of Therapeutics, by Goodman and Gilman of Yale. Other books of interest: Essentials of Endocrinology, d IV; Miller's Schizophrenia in Childhood; Green's Mechanisms of Biological Oxidations; and Silverman's Magic in a Bottle—a true account of the discoveries and discoverers of ten of today's wonder-working drugs.

C. V. MOSBY COMPANY
Booth 205

Among the new medical and surgical literature which will tempt you to browse through this exhibit are the following titles, on display for the first time: Willius and Keys, Cardiac Classics; Crossen and Crossen, Foreign Bodies Left in the Abdomen; Harris, Clinical Pellagra; Nygaard, Hemorrhagic Diseases; and new editions of Meakins, Practice of Medicine; of Treatment on to Der Physical Diagnosis, and Titus, Obstetric Difficulties.

W. F. PRIOR COMPANY, INC.
Booth 300

The Prior Company will exhibit the new Waltman Walters-Lewis' Practice of Surgery, with 700 new pages. The publishers announce that during the next few months over sixty-five new chapters will be issued. A new loose-leaf index has also been prepared. The fortieth edition of Tice's Practice of Medicine will be displayed, with other standard reference volumes such as Brenemann's Practice of Pediatrics; Davis' Gynecology and Obstetrics and The Principles and Practice of Physical Therapy.

W. B. SAUNDERS COMPANY
Booths 307 and 313

Among the new books and new editions to be shown by these publishers are: Krusen's Physical Medicine; Ladd & Gross' Abdominal Surgery of Infancy and Childhood; the new 1911 Mayo Clinic Volume; Graybiel & White's Electrocardiography; Pelouze's Office Urology; 19th edition American Illustrated Medical Dictionary; third edition, Griffith & Mitchell's Pediatrics; Lewin's Acute Poliomyelitis; Steinbrocker's Arthritis; Kolmer & Tuft's Immunity, Biotherapy, and Chemotherapy; fifth edition, Cecil's Medicine; current series, Medical Clinics of North America and Surgical Clinics of North America.

OXFORD UNIVERSITY PRESS
Booth 201

Among the books on display will be the seventh edition of Applied Physiology by Dr. Samson Wright, which has been fully revised and enlarged. Also, the second edition of Diagnosis and Treatment of Diseases of the Heart by Dr. Henry A. Christian, as well as several standard Medical Monographs and Oxford Loose-Leaf Medicine.

SURGICAL PUBLISHING COMPANY
Booth 105

Convention visitors interested in surgery will enjoy the exhibit of this surgeons' journal, where pages are reproduced with special lighting to illuminate contents and bring out the fine typography and beautiful illustrations. An attendant will be present to point out unusual features of the journal, including the International Abstract of Surgery, which has been of special interest to subscribers.

UNIVERSITY OF CHICAGO PRESS
Booth 138

Recent medical publications of the following University Presses will be exhibited in this booth: Yale University Press, University of Minnesota Press, Harvard University Press, University of Chicago Press, Columbia University Press, Stanford University Press, Princeton University Press. Convention visitors are invited to examine important journals, reports of research and general publications in the field, on display here.

WILLIAMS & WILKINS COMPANY
Booth 317

With the century-old British connections of William Wood & Co., the Williams & Wilkins exhibit will be logical headquarters for "war books." These include Bailey, Surgery of Modern Warfare; Hurst, Medical Diseases of War; Fletcher, War Wounds and Injuries; Nicholls, Organization of British Army Medical Services. The widely read reprint of Bohler's Fractures, the new edition of Watson-Jones, Fractures, plus two hundred other current medical and surgical books will be available for examination.

YEAR BOOK PUBLISHERS, INC.
Booth 182

Timely volumes in the popular General Practice Manual group and three newly-added Year Book titles will be the center of interest in this publisher's exhibit. Also prominent in the display will be Fortieth Anniversary features of the Year Books. In addition, the publisher will show the line of moderate priced manuals and monographs issued by this house during the past four years.

OFFICE FURNITURE

W. D. ALLISON COMPANY
Booth 271

If you are interested in examining a line of fine wood medical furniture, this exhibit will merit a stopover on your tour.

DOMORE CHAIR COMPANY, INC.
Booth 426

Posture chairs for the executive and also for clerical and factory staffs will be displayed by the Domore Company. Of special

interest will be the Triple Duty Executive models, which provide for postural aid and relaxation, and lend themselves to an abdominal-diaphragmatic exercise while seated.

The "Postur-Matic" model, a new development to influence posture and promote evaporation of sweat, will also be shown.

HAMILTON MANUFACTURING CO.
Booths 106, 107, 108, 109

This display will feature three designs in modern medical furniture, ranging from budget Steeltone equipment to DeLuxe Nu-Tone furniture. All Hamilton walnut furniture displayed is equipped with the easy-running woodsteel drawer. Drawers and doors are silenced to lessen nerve strain. You are invited to inspect this equipment and see its time-saving features.

MCCASKEY REGISTER COMPANY
Booths 463 and 464

An exhibition of how steel brings the appearance of finest woods into the professional office will be found in the McCaskey booth. In addition to beauty of finish, this steel furniture offers the convenience of smooth ballbearing drawer action which requires but the touch of a finger. Metal visible files for active case records, installed in groups of twenty-five in a row, will also be demonstrated.

ROYAL METAL MANUFACTURING CO.
Booth 178

Several newly designed reception room chairs and settees will be on display here, also a new sterilizer cabinet and examination chair. An attractive feature of this year's Royal metal furniture will be the new upholstery shade called Cinnamon, a simulated rawhide.

SHAMPAINE COMPANY
Booths 172 and 173

The Shampaine display will consist of new models of Steelux physician's furniture, Martin all-purpose Chair Table, new Hydraulic Nose and Throat Specialist Chair, Lewis Hydraulic Treatment Chair Table and other samples of recent developments in steel surgical equipment.



AMERICAN OPTICAL COMPANY
Booths 446, 447, 448, 449, 450

A complete line of eye-diagnostic, eye-corrective and scientific instruments will be exhibited by American Optical Company and its scientific instrument division, Spencer Lens Company. Featured will be the recently developed Additive Phoropter, an instrument in which the three vital points of interest to users—prescription accuracy, ease of operation and patients' comfort—are combined. Spencer microscopes and projection equipment will also be shown.

BAUSCH & LOMB
Booths 469 and 470

Their medical, research and laboratory microscopes and accessories will be shown by Bausch & Lomb, also their varied line of diagnostic instruments, such as otoscopes, ophthalmoscopes, retinoscopes, and many others.

KEYSTONE VIEW COMPANY
Booth 497

Featured in the Keystone booth will be a new Cumulative Record Form for the DB tests which greatly simplifies their interpretation. You will also find a new split slide holder attachment for the Telebinocular and a similar attachment for the hand stereoscope, with wide application in administering base out and base in exercises. A new series of Synoptoscope slides in both opaque and transparency form supplements the regular line of orthoptic training material.

WELCH ALLYN COMPANY
Booth 155

The new Ophthalmoscope with filter system and slit aperture shown for the first time at the Convention in New York last year will be on exhibit again. Visiting

★ *Exhibitors* ★

Hoerber, Inc., Paul B., N. Y. C. 315
Hoffman-Laloe, Inc., Nutley, N. J. 277
Holland-Rantos Co., Inc., N. Y. C. 481
Hospital Liquids, Inc., Chicago. 270
Hygela Health Magazine, Chicago. 485
Hynson, Westcott & Dunning, Inc., Baltimore. 219
International Vitamin Corp., N. Y. C. 433-4
Irradiated Erap. Milk Inst., Chicago. 410
Johnson & Johnson, New Brunswick, N. J. 421
Jones Metabolism Equip. Co., Chicago. 177
Juvenile Wood Prods., Inc., Ft. Wayne, Ind. 111
Kelley-Koett Mfg. Co., Covington, Ky. 168-9-170-1
Keystone View Co., Meadville, Pa. 497
Kerchen Katch-All Corp., Greenwich, O. 162
Lakeside Labs., Inc., Milwaukee. 468
LaNotte Chem. Prods. Co., Baltimore. 102

Lea & Febiger, Philadelphia. 314
Lederle Labs., Inc., N. Y. C. 232-265-6-480
Lepel High Frequency Labs., Inc., N. Y. C. 153-4
Lewis Mfg. Co.—Bauer & Black, Chicago. 212
Libby, McNeill & Libby, Chicago. 291
Liebel-Flarsheim Co., Cincinnati. 427
Lilly, Eli & Co., Indianapolis. 202-3-217-18
Lippincott Company, J. B., Philadelphia. 295-6
Little, Brown & Co., Boston. 129
Lor-6 Brasserie Co., Los Angeles. 115
Luzier's Inc., Kansas City, Mo. 414-15
M & R Dietetic Labs., Inc., Columbus, O. 466
Macmillan Company, N. Y. C. 467
Malco Company, Inc., Minneapolis. 517-18
Mallinckrodt Chem. Works, St. Louis, Mo. 298
Maltine Company, N. Y. C. 246
Marcelle Cosmetics, Chicago. 235

physicians are invited to inspect personally the new features embodied in this instrument. A full line of Welch Allyn diagnostic instruments will also be shown.

PHARMACEUTICALS AND BIOLOGICALS

ABBOTT LABORATORIES Booths 206 and 207

You are most heartily invited to visit this new, modern Abbott exhibit. Specially designed, this display will exemplify 20th century ingenuity, without that harshness of line and color so often present in modern design. Abbott-trained representatives in attendance will be glad to discuss the comprehensive selection of new products on display, including sulfapyridine, sulfathiazole, Liver Extract Injectable, and others.

AMERICAN HOSPITAL SUPPLY CORP. Booth 294

A cordial invitation is extended to physicians to examine the latest Baxter Laboratories' equipment for the preparation of human blood plasma and serum. There will be frequent demonstrations and discussions of this timely subject, and information on Baxter Intravenous Solutions and blood transfusion technique with the Transfuso-Vac, The Vasosclator or motorized oscillating bed for the treatment of peripheral vascular diseases will also be demonstrated.

ARLINGTON CHEMICAL COMPANY Booth 238

The Arlington Chemical Company invites visitors' inspection of their protein and pollen products for the diagnosis and hypsensitization of hay fever, asthma and other allergic conditions. The representative in charge of the exhibit will be happy to answer questions regarding the treatment of hay fever and asthma. Literature will be available.

ARMOUR LABORATORIES Booth 303

Capable and well-informed representatives will be on hand at this exhibit to welcome visitors and furnish information on endocrine products. New Index Cards on Armour endocrine products with an attractive metal case will be supplied to doctors registering at the booth.

BARRY ALLERGY LABORATORIES Booth 130

Physicians in the "hay fever belt" will be particularly interested in the allergy tests materials to be shown by Barry, also in the convenient patient report cards included with test equipment. Worth your while investigating.

BILHUBER-KNOLL CORPORATION Booth 233

Your visits to this booth will be welcome, and careful attention will be given questions and discussions on Dilaudid, Metrazol, Theocalcin, and other Council accepted medicinal chemicals. You may register for a copy of the Note Book of Medicinal Chemicals. A set of four colored charts, of the muscular, skeletal, circulatory, and respiratory systems, will also be supplied upon request.

CHURCH & DWIGHT CO., INC. Booth 239

Church & Dwight will exhibit Arm & Hammer Bicarbonate of Soda. Three years before the first meeting of the American Medical Association, this company pioneered in producing bicarbonate of soda in the Western Hemisphere. This year, besides exhibiting various uses of this product in medical practice, the attendants will demonstrate its value as a powder for cleaning the teeth.

GIBA PHARMACEUTICAL PRODUCTS Booths 126 and 127

Your call will be welcomed at the Giba booths, where well-known specialties will be on display. These will include Digifoline, Dial, Lipiodine, Nupercaine and Vioform. The Assistant Medical Director and other representatives of the firm will be present and will answer any questions in regard to the products displayed.

CUTTER LABORATORIES

Booth 435

Cutter Laboratories will feature their complete line of Council accepted biologicals and allied specialties. Among the latter, Sobisminol Mass for oral adjuvant syphilis therapy and their line of dextrose and other solutions in the special Saffi-flasks dispensing containers will be of particular interest.

DAVIES, ROSE & COMPANY, LTD.

Booth 462

Of particular interest to cardiologists and neurologists will be the preparations displayed by Davies, Rose & Company. You are invited to see this exhibit and discuss the products with company representatives.

DRUG PRODUCTS CO., INC.

Booth 431

You will find this professional house of Hyposols and Pulvoids exhibiting Pulvoids Digitalis Forum, a mode of digitalis therapy biologically standardized by the Hatcher-Brody cat method, Pulvoids Sulfanilamide, Hyposols Sodium Cacodylate and other injectable solutions, Council accepted. Those in attendance will be pleased to explain the Pulvoids method of manufacture.

ENDO PRODUCTS, INC.

Booth 416

You will want to see this interesting exhibit of Council accepted ampoules in the making. Skilled hands and up-to-date machinery from the laboratories will combine to demonstrate the intricate steps which go into the filling and sealing of drugs in ampoules. Representatives will explain the process and discuss the products with you.

FLINT, EATON & COMPANY

Booth 147

An attractive exhibit has been arranged, featuring Calcium-Gluconate-Effervescer, Flint, a new and palatable dosage form of calcium gluconate. Physicians interested in calcium therapy are cordially invited to visit the booth.

GRADWOHL LABORATORIES

Booth 461

This exhibit will show advantages of staining blood films with Giemsa stain, also methods of rapid frozen section work of tissues. Information on the use of plasma as a substitute for whole blood will be available.

HOFFMANN-LA ROCHE, INC.

Booth 277

War shortages of atropine and belladonna have greatly increased physicians' interest in Syntropan. This antispasmodic will be one of the featured drugs in the Hoffmann-La Roche exhibit. Prostigmin preparations will likewise be an attraction and members of the Roche Medical Division will be in attendance for discussion of pharmaceutical prescription specialties from Roche Park.

HOSPITAL LIQUIDS, INC.

Booth 270

Many doctors will be interested in this exhibit of the new methods of handling and administering fluids intravenously. Apparatus and illustrations will be shown, and qualified technicians will discuss the problems in this field.

HYNISON, WESTCOTT & DUNNING, INC.

Booth 219

An exhibit featuring Mercurochrome and specialties will be also be a display and ampule solution firm's laboratories. Competent representatives will demonstrate the products, and literature and samples will be available.

INTERNATIONAL VITAMIN CORPORATION

Booths 433 and 434

This "House of Vitamins" will feature at its booth the production of its highly potent vitamin A and D Oils. The I.V.C. Council accepted products will also be displayed, and the Director of Research will be available for consultation.

LAKESIDE LABORATORIES, INC.

Booth 468

Lakeside's exhibit will illustrate the intensive control and research procedures which are essential in manufacturing products for the medical profession. Progress in these fields is especially important in the preparation of ampule medications.

LEDERLE LABORATORIES, INC.

Booths 252, 265, 266

Products for dealing with pernicious anemia, pneumonia and vitamin B deficiencies will be exhibited in four sections. Liver therapy in pernicious anemia will be illustrated by charts and photomicrographic material showing neurological involvement in pernicious anemia. Color transparency charts and photomicrographs will illustrate the drop in pneumonia mortality since the general acceptance by the profession of type specific serum and Sulfonamide therapy.

ELI LILLY AND COMPANY

Booths 202, 203, 217, 218

The Lilly Laboratories have centered their exhibit this year around an interesting demonstration of the "mouse convulsion" method of testing the potency of Nelin, Insulin, Lilly. Other important Council accepted products will be featured, and members of the medical staff will be in attendance.

McKESSON & ROBBINS

Booth 243

A display of vitamin products with a correlated exhibit on vitamins will be presented by McKesson & Robbins. Physicians are cordially invited to see the recent developments in this field.

McNEIL LABORATORIES, INC.

Booth 429

Physicians are invited to call and discuss recent developments in the pharmaceutical field with members of the staff of McNeil Laboratories. The exhibition will feature Digitalis Duo-test and the technique used in its double-testing by the U. S. P. frog method and the Reed-Vanderkleed guinea pig method. Other displayed for in- for samples or ned.

MALLINGKRODT CHEMICAL WORKS

Booth 298

Doctors and their friends are invited to visit the Mallinckrodt display of U. S. P. and N. F. preparations which are most frequently used and prescribed by physicians.

★ Exhibitor ★

Mattern Mfg. Company, Chicago.....279-292-3
McCaskey Register Co., Alliance, O.....463-4
McIntosh Electrical Corp., Chicago.....136
McKesson Appliance Co., Toledo, Ohio.....148
McKesson & Robbins, Inc., New York, N. Y.....243
McNeil Labs., Inc., Philadelphia.....429
Mead Johnson, Evansville, Ind.....157-8-204-443-4-493-A
Medical Bureau, Chicago.....214
Medical Case History Bureau, N. Y. C.....440
Medical Film Guild, N. Y. C.....209A
Medical Protective Co., Ft. Wayne, Ind.....488
Mellin's Food Co., Boston.....400-1
Mennen Company, Newark, N. J.....451
Merek & Co., Inc., Rahway, N. J.....236-7
Merrell Company, Wm. S., Cincinnati.....436
Mosby Company, C. V., St. Louis.....203

Mueller & Co., V., Chicago.....215-6
Muller Labs., Baltimore, Md.....460
National Canners Ass'n., Washington, D. C.....174
National Drug Co., Philadelphia.....149
National Live Stock & Meat Bd., Chicago.....494
Nestlé's Milk Prods., Inc., N. Y. C.....258
Northwestern Mut. Life Ins. Co., Milwaukee.....180
Ohio Chem. & Mfg. Co., Cleveland.....116-7
Oldsmobile, Lansing, Mich.....Arena Lobby
Otarion, Inc., Chicago.....137
Oxford University Press, N. Y. C.....201
Parke, Davis & Co., Detroit, Mich.....272-283-6-299
Patch Company, E. L., Boston, Mass.....482
Patterson Screen Co., Towanda, Pa.....402
Pelton & Crane Co., Detroit, Mich.....166
Penick & Ford, Ltd., Inc., N. Y. C.....123

cians. Specialties offered to the medical profession by this firm will also be exhibited. The attendants in charge will be glad to be of service in answering questions.

MALTINE COMPANY
Booth 246

The Maltine display will illustrate the materials and methods used in producing this company's well-known Maltine with Cod Liver Oil. Trained representatives will be glad to explain the modern methods of producing these Council accepted products, which have been undergoing improvements during the past sixty-five years: Maltine with Cod Liver Oil, Maltine with Cod Liver Oil and Iron Iodide, and Maltine Plain.

MERCK & COMPANY
Booths 236 and 237

New and vitally important advances in medicine will highlight the Merck exhibit. The vitamins, amino acids, and sulfonamides will be presented together with the inhalation anesthetic, Vinethene. A special panel will be devoted to important Merck prescription chemicals.

WM. S. MERRELL COMPANY
Booth 436

This exhibit will feature the newer specific agents in the fields of nutrition and chemotherapy, also a number of original research products of interest to physicians. You are most cordially invited to visit the Merrell booth.

NATIONAL DRUG COMPANY
Booth 149

Rhus Tox Antigen and Hay Fever Pollen Antigens will be prominently featured in the exhibit. A complete line of Council accepted National biologicals will be displayed. A competent staff of salesmen and research workers will be in attendance to discuss with visiting doctors, nurses and hospital officials the various National biological, biochemical and pharmaceutical products.

OHIO CHEMICAL & MANUFACTURING CO.
Booths 116 and 117

See the complete line of Heidbrink Kinometer Gas Machines, resuscitation equipment, oxygen tents, Oropharyngeal Outfits and other types of therapy equipment adapted for hospital use. You will also see a full display of Ohio equipment and anesthetic gases.

PARKE, DAVIS & COMPANY
Booths 272, 285, 286, 299

Featured in the Parke-Davis exhibit will be the sex hormone preparations, Theloin and Theolol . . . anti-syphilitic agents, such as Mapharsin and Thio-Bismol . . . posterior lobe preparations, including Pituitrin, Pitocin and Pitressin . . . and various Adrenalin Chloride preparations.

E. L. PATCH COMPANY
Booth 482

The growing seriousness of the cod liver oil situation will lend interest to this exhibit. Representatives will be in attendance and ready to give you information concerning Patch's Cod Liver Oil and the ever-changing vitamin picture. You are cordially invited to visit the booth.

PETROLAGAR LABORATORIES, INC.
Booth 261

Physicians are cordially invited to visit here and request copies of the new series of colored illustrations of the gastro-intes-

tinal tract. Representatives will be present to explain and demonstrate new and unusual features of Petrolagar emulsion of mineral oil.

RIEDEL-de HAEN, INC.
Booth 318

The result of recent studies of the effect of Decholin and Decholin sodium on increasing the arterial blood supply of the liver will be displayed here. Attending representatives will be glad to discuss the therapeutic implication of this action of Decholin in the treatment of hepatic and biliary tract disorders.

SANDOZ CHEMICAL WORKS, INC.
Booth 254

Physicians will be interested in Gynergen, ergotamine tartrate, employed for the relief of migraine as well as for dependable uterine hemostasis. Sandoz' pure cardioactive glycosidal products to be displayed include Digilanid, the crystallized initial lanata, standardize as biological will as well as biological. Also featured will be the gluconate preparations of calcium, Calglucon, and Sandoptal, an efficient hypnotic.

SCHERING CORPORATION
Booth 310

Two products will be emphasized in the Schering exhibit: Thyroid U. S. P. and Neo-Iopax. Schering's Thyroid U. S. P. exemplifies precision standardization on a chemical basis. Neo-Iopax is a safe intravenous urographic medium for visualization of the urinary tract, uterus and tubes, the great vessels, and other regions.

G. D. SEARLE & COMPANY
Booths 220 and 221

Research activities will be emphasized in this year's exhibit. Several members of the research staff will be present, in addition to the usual complement of sales department representatives, both anxious to discuss with members of the medical profession any question with respect to Searle research products.

SHARP & DOHME
Booths 226 and 227

You will find this display featuring Propadrine Hydrochloride and other items in both the pharmaceutical and biological fields. Physicians are invited to visit the booths, where competent representatives will be in attendance.

SMITH-DORSEY COMPANY
Booth 175

Physicians are cordially invited to visit the Smith-Dorsey booth, where they will find on display chocolate flavored Emulsion Liquid Petroleum and other Council accepted products. Representatives in charge of the exhibit will be glad to furnish full information about products shown.

E. R. SQUIBB & SONS
Booths 280, 281, 282

Constructed of gleaming white tile and brilliantly lighted, this exhibit will display pictures and charts pertaining to recent studies in the fields of nutrition, endocrinology, biological therapy and chemotherapy. In this manner, Squibb will show some of the intensely interesting work being conducted in its Research Laboratories. Representatives will be on hand to welcome you and furnish any information desired.

SMITH, KLINE & FRENCH LABORATORIES
Booth 223

One hundred years of service to the medical profession will be commemorated by this firm's exhibit. Council accepted specialties will be on display and trained representatives, as well as members of the Research Department, will be on hand to answer questions.

FREDERICK STEARNS & COMPANY
Booths 100 and 101

Professional representatives at the Stearns booth will have information for visitors on the use of such products as Neo-Synephrin Hydrochloride for intranasal use and Sterile Solution for parenteral use in acute hypotension and spinal anesthesia. Information will also be available on Appella Apple Powder-Stearns for use in infantile diarrheas and dysenteries, Gastric Mucin-Stearns for use in treatment of peptic ulcer and Liver Extract U. S. P., Oral and Subcutaneous for treatment of pernicious anemia.

WALLACE & TIERNAN PRODUCTS, INC.
Booth 152

Members of the Pharmaceutical Division staff will be on hand to greet you, and discuss the Council accepted product Azochloramid employed in the prevention and control of wound infection.

WHITE LABORATORIES, INC.
Booth 301

An exposition of the typical deficiency manifestations of two accessory food factors has been prepared for the Convention by the Research Staff of the Laboratories. Qualified representatives will demonstrate the special features of the exhibit and present the experimental and clinical background of White's Council accepted vitamin preparations.

WINTHROP CHEMICAL COMPANY
Booths 306 and 308

A display specially prepared for the Convention will greet visitors at the Winthrop booth. You are invited to see this up-to-the-minute exhibit.

WISCONSIN ALUMNI RESEARCH FOUNDATION
Booth 476

An attractive exhibit demonstrating not only the need for important functions the Wisconsin Alumni. Members of will be glad to provide physicians with authoritative information regarding Vials, bottled Vitar, dairies, and MILK.

JOHN WYETH & BROTHER, INC.
Booths 159 and 458

Complete information and literature on Silver Picrate as used in genito-urinary and gynecological practice will be available through Wyeth representatives in attendance at the exhibit. You are invited to investigate this product.



BECK-LEE CORPORATION
Booth 428

Achieved—an x-ray unit which promises to make the advantages of radiography and fluoroscopy easily available to physicians in general practice. This is the Beck-Lee BLX 10, which will be spotlighted in the exhibit along with the Beck-Lee Quartz-string Electrocardiograph.

BEDFORD SURGICAL COMPANY
Booths 141, 142, 143

The Bedford Company will present an advance showing of the new line of Continental products—featuring x-ray, fluoroscope, Council accepted Short wave diathermy apparatus, and the 1912 suites of medical office equipment.

BIRTCHEER CORPORATION
Booth 176

Conspicuous in this year's Birtcheer display will be their new Electrosurgical Unit—a combination tube and spark-gap machine for trans-urethral prostatic resection, brain surgery, and all types of major and minor work. Physicians owning short-

★ *Exhibitors* ★

Personal Prods. Corp., Milltown, N. J.	131
Pet Milk Co., St. Louis, Mo.	422-3-4-5
Petrolagar Labs., Inc., Chicago	262
Phillips Morris & Co., Ltd., Inc., N. Y. C.	213
Phillips Metals Co., N. Y. C.	492
Picker X-Ray Corp., N. Y. C.	228-9-230-2
Prior Co., Inc., W. F. Hagerstown, Md.	300
Procter and Gamble Co., Ironton, Ohio	430
Promethee Elec. Corp., N. Y. C.	478
Pronto Add. & Mail. Serv., Inc., N. Y. C.	113
Puritan Gas. Gas Corp., Kansas City, Mo.	164
Pyramid Rubber Co., Ravenna, O.	408
Radium Chemical Co., Inc., N. Y. C.	479
Radium Emanation Corp., N. Y. C.	179
Remington Rand—Free Steno. Service	120-1
Riedel-de Haen, Inc., N. Y. C.	318
Ritter Equip. Co., Inc., Rochester, N. Y.	302

Rose Mfg. Co., E. J., Los Angeles	101
Royal Metal Mfg. Co., Chicago	178
S.M.A. Corp., Chicago	260
Safety Gas Machine Co., Inc., Chicago	112
Sanborn Company, Cambridge, Mass.	498
Sandoz Chemical Works, Inc., N. Y. C.	254
Saunders Co., W. B., Philadelphia	307 & 312
Scanlan-Morris Co., Madison, Wis.	139-10
Schering Corp., Bloomfield, N. J.	310
Scientific Sugars Co., Columbus, Ind.	234
Searle & Co., G. D., Chicago	220-1
Shampaine Co., St. Louis, Mo.	172-3
Sharp & Dohme, Philadelphia	226-7
Siebrandt, J. R. Mfg. Co., Kansas City, Mo.	322
Sklar Mfg. Co., J., L. I. C., N. Y.	256
Smith-Dorsey Co., Lincoln, Neb.	175
Smith, Kline & French Labs., Philadelphia	223

wave equipment and electrosurgical devices will also be interested in the many and varied Birtcher electrodes and accessories designed to make this apparatus more useful.

BURDICK CORPORATION

Booth 283

The Burdick Corporation will show their complete line of physical therapy equipment, including short wave diathermy, ultraviolet and infra-red lamps, electro-surgical and low voltage units. Features of special interest will be the Rhythmic Constrictor for the treatment of peripheral vascular diseases, and the Vibrocardiograph, a new cathode ray instrument for visualizing and recording all heart vibrations.

CANADIAN RADIUM & URANIUM CORP.

Booth 151

A visit to this absorbing exhibit will remind medical men that all needs for radium in the Western Hemisphere can now be supplied wholly within this hemisphere. This situation follows the successful development of the rich reserves of ore at Great Bear Lake in the Canadian sub-Arctic, and the completion of large modern refining facilities at Port Hope, Ontario. As sole sales agent for the output, the exhibitors offer this high-purity radium in any form and any type of container. For further interesting details, call at the booth.

WARREN E. COLLINS, INC.

Booth 316

A new development to increase the usefulness of the famous Drinker-Collins Respirator will be shown this year. Be sure to see this interesting new feature, also the new "streamlined" model of the Drinker-Collins Infant Respirator and Incubator for resuscitating the newborn, the Benedict-Roth Metabolism apparatus, and the Collins Oxyflo "Open-Top" oxygen tent.

E & J MANUFACTURING CO.

Booth 454

Latest improvements in ease of operation make the E & J Resuscitator well worth a visit of inspection. Movement of just one lever makes Aspirator, Resuscitator or Inhalator immediately available in the one device. See this appliance on display.

H. G. FISCHER & COMPANY

Booth 290

Inviting visitors to "look under the hood" of Fischer apparatus, the makers will display their shockproof x-ray apparatus, short wave units, ultraviolet and other generators.

GENERAL ELECTRIC X-RAY CORPORATION

Booths 247, 248, 249, 250

Included in this exhibit will be therapeutic x-ray apparatus, diagnostic x-ray apparatus, physio-therapy apparatus, supplies and accessories. Among these will be a new model photo-roentgen unit improved from crank to lens to permit finer detail over the entire chest area and to make operation smoother and speedier. This unit photographs the fluoroscopic image of the chest on a 4 by 5 inch celluloid film, large enough for direct diagnosis.

HANOVIA CHEMICAL & MFG. COMPANY

Booth 241

A new local therapy ultraviolet quartz lamp cooled by air instead of water will be on view in the Hanovia booth, and attendants will welcome requests for demonstrations. A complete line of self-lighting ultraviolet quartz lamps will also be on display, as well as Sollux radiant heat lamps, short and ultra-short wave apparatus.

LEPEL HIGH FREQUENCY LABORATORIES

Booths 153 and 154

In this exhibit you will find Lepel's spark gap short wave generators, tube short wave generators and the induction type mercury quartz ultraviolet lamps, two models of which are made for operation from high frequency generators and are Council accepted. A demonstration of the apparatus and lamps will be given.

KELLEY-KOETT MFG. CO., INC.

Booths 168, 169, 170, 171

At the Kelley-Koett display physicians will see a most complete line of modern x-ray equipment from the smallest portable units to complete diagnostic combinations. Feel free to discuss your interests and inspect all the models.

LIEBEL-FLARSHEIM COMPANY

Booth 427

The complete line of L-F Short and Ultra-Short Wave Generators, and the famous Bowie Electro-Surgical Units will be on display for visitors. In addition, the Hypertherm all air-conditioned Fever Cabinet, ultraviolet equipment and other newly developed and interesting physical therapy apparatus and accessories will be shown. You will find the attendants pleased to demonstrate this modern equipment.

McINTOSH ELECTRICAL CORPORATION

Booth 136

Old McIntosh customers and friends will receive a cordial welcome at the booth. The latest models of Hogen Brevatherm short wave diathermy apparatus, sinusoidal and galvanic current equipment and the Biolite and Infra-Red Lamps will be displayed. An expert from the factory will be present to answer any questions on physical therapy technique.

McKESSON APPLIANCE COMPANY

Booth 148

Helpful information concerning the oxygen therapy equipment, metabolism apparatus and other McKesson Appliances will be available at their booth. Well-informed representatives will be on hand to discuss the machines and their uses.

MATTERN MANUFACTURING CO.

Booths 279, 292, 293

Units to be exhibited by the Mattern Company this year include: Roentgen Special 200 MA 140 P.K.V., MX 200-100 with DeLuxe Push Button Panel Control, 60 MA 90 PKV Therapy Mobile Unit, and 15 MA 73 PKV Combination Mobile and Portable Unit. You are invited to inspect this apparatus.

PHILIPS METALIX CORPORATION

Booth 492

Visitors to this exhibit will have the opportunity to inspect and have demonstrated the Philips modern X-Ray Generators incorporating the Philips automatized circuit which adds to the life of the x-ray tube and assures consistent radiographic results. Radiographic and fluoroscopic tilt tables will be shown, also Philips x-ray tubes.

PICKER X-RAY CORPORATION

Booths 228, 229, 230, 232

A complete line of modern shockproof x-ray apparatus will be shown, including the Comet unit, Century unit, Series 200 unit for fluoroscopy and radiography, and 200,000 volt deep therapy equipment. Also, the United States Army Mobile Field X-Ray unit will be displayed, complete with special packing chests. This unit, designed in cooperation with the Army Medical Division, will probably be of great interest to visiting doctors.

PURITAN COMPRESSED GAS CORPORATION

Booth 164

You are cordially invited to visit the exhibit of "Puritan Maid" gases and a complete line of gas equipment. Of particular interest are the Puritan Mask and Bag, and two-stage pressure regulator, which have

been found to be widely adaptable for use in inhalation gas therapy. Visitors may obtain a copy of Gas Therapy Equipment Catalog No. 28.

RADIUM CHEMICAL COMPANY, INC.

Booth 479

The latest instruments for the handling and application of radium and radon will be exhibited. Representatives will be pleased to discuss with physicians their radium and radon requirements and to outline the company's leasing service, whereby physicians may have continuous possession of radium at a nominal monthly fee with no capital investment; also the plan for purchase of radium.

RADIUM EMANATION CORPORATION

Booth 179

Visit this exhibit and see a wide variety of instruments and applicators used in modern radium therapy, including permanent and removable composite, leak-proof Radon Seeds. The advantages of these seeds will be demonstrated.

E. J. ROSE MFG. COMPANY

Booth 104

Newest developments in short wave diathermy, low voltage wave generators, electro-surgical equipment, and the genuine Cold Quartz ultraviolet lamps will be on display here. As in past years, the exhibit will be conducted for educational purposes. Competent factory representatives will be on hand to answer questions, conduct demonstrations and assist in any way desired.

STANDARD X-RAY COMPANY

Booths 419 and 420

X-ray apparatus of the latest design will be shown by this exhibitor. Attendants will be glad to demonstrate the Model EBRF Unit, designed primarily for office installation, permitting all types of fluoroscopic and radiographic work, and offered at a moderate price. X-ray apparatus for other requirements will also be exhibited.

WESTINGHOUSE X-RAY DIVISION

Booths 403, 404, 405, 406

The United States Army x-ray field table will occupy a prominent place in the Westinghouse exhibit. This table is designed for the localization of foreign bodies and also for practical radiographic and fluoroscopic procedures in Army hospitals. Another interesting exhibit will be photo-fluorographic equipment designed for rapid and economical mass surveys of chests. Other interesting x-ray equipment will also be featured in this exhibit.



S. H. CAMP & COMPANY

Booth 321

A life-sized reproduction of the Camp Transparent Woman will be displayed as the central theme of a typical service department equipped to serve patients with the various supports prescribed by physicians. The complete line of merchandise for prenatal, postnatal, orthopedic, visceroptosis, sacro-iliac, hernial and other specific conditions will be shown. Experts from the Camp staff will be in attendance to answer questions.

(Continued on advertising page 80)



Exhibitor



Spencer Corset Co., New Haven, Conn.	224-5
Sperit Elec. Mfg. Corp., Cincinnati, Ohio	443
Spirella Co., Inc., Niagara Falls, N. Y.	510
Squibb & Sons, E. R., N. Y. C.	280-1-2
Standard X-Ray Co., Chicago	419-20
Stearns & Co., Frederick, Detroit	100-1
Storm, Katherine L., Philadelphia	319
Sun Rayed Co., Frankfort, Ind.	278
Surgical Publishing Co., Chicago	103
Tampax, Inc., N. Y. C.	407
Taylor Instr. Companies, Rochester, N. Y.	274
Thomas, Charles C., Springfield, Ill.	146
Tower Co., Inc., Seattle, Wash.	496
U.M.A., Inc., N. Y. C.	103
Union Carbide Co., N. Y. C.	251
United Fruit Co., N. Y. C.	257

U. S. Surg. Appl. Corp., Union City, N. J.	516
University of Chicago Press, Chicago	138
Vegey, Inc. (Vitamin Food Co.), N. Y. C.	244
Wallace & Tiernan, Belleville, N. J.	152
Welch Allyn Co., Auburn, N. Y.	153
West'ghse (X-Ray Div.) L.I.C., N. Y.	403-4-5-6
White Labs., Inc., Newark, N. J.	301
Williams & Wilkins Co., Baltimore	317
Wilson Rubber Co., Canton, O.	137
Winthrop Chem. Co., Inc., N. Y. C.	306-8
Wisc. Alumni Res'ch Found., Madison, Wis.	476
Wocher Company, Max & Son, Cincinnati	493
Wyeth, Inc., John & Bros., Phila.	159 & 453
Year Book Publishers, Inc., Chicago	182
Zimmer Mfg. Co., Warsaw, Ind.	459

AMERICAN MEDICAL ASSOCIATION ON TRIAL

THE TRIAL OF THE CASE OF THE UNITED STATES OF AMERICA VS.

THE AMERICAN MEDICAL ASSOCIATION, A CORPORATION, THE MEDICAL SOCIETY OF THE DISTRICT OF COLUMBIA, A CORPORATION, THE HARRIS COUNTY MEDICAL SOCIETY, AN ASSOCIATION, THE WASHINGTON ACADEMY OF SURGERY, AN ASSOCIATION, ARTHUR CARLISLE CHRISTIE, COURSEN BAXTER CONKLIN, JAMES BAYARD GREGG CUSTIS, WILLIAM DICK CUTTER, MORRIS FISHBEIN, THOMAS ALLEN GROOVER (DECEASED), ROBERT ARTHUR HOOE, ROSCO GENUING LELAND, THOMAS ERNEST MATTINGLY, LEON ALPHONSE MARTEL, FRANCIS XAVIER MCGOVERN, THOMAS EDWIN NEILL, EDWARD HIRAM REEDE, WILLIAM MERCER SPRIGG, WILLIAM JOSEPH STANTON, JOHN OGLE WARFIELD JR., OLIN WEST, PRENTISS WILLSON, WILLIAM CREIGHTON WOODWARD, WALLACE MASON YATER, JOSEPH ROGERS YOUNG.

(Continued from page 1855)

MARCH 25—MORNING

THE COURT:—I might say to the jury that Mr. Leahy is sick today; he will get out tomorrow. Counsel is going on with some matters meanwhile.

TESTIMONY OF J. FRANCIS MOORE DIRECT EXAMINATION

By Mr. Burke:

J. Francis Moore said he had brought some documents of the Federal Home Loan Bank Board which were subpoenaed.

THE BY-LAWS OF GROUP HEALTH ASSOCIATION

Mr. Richardson then read the entire by-laws of Group Health Assn., Inc. beginning with "Article III. This dealt with Membership Meetings and was amended May 25, 1937.

Sections 2 and 3 also dealt with meetings and had been amended May 25, 1937.

Sections 4 and 5 dealt with election of the Board of Trustees. Section 6 dealt with the right to vote and had been amended in May 1937 and in May 1938.

Section 7 described a quorum.

"Article IV dealt with the duties of the Trustees.

Article V described the Officers.

"Section 5. The Board of Trustees shall employ a competent, qualified Doctor of Medicine as the Medical Director, and such assistants, orderlies, nurses or other help necessary to the proper functioning of the corporation."

Section 5 of Article V was amended on May 2, 1938, to read as follows:

"Section 5. The Board of Trustees shall contract for and in behalf of the members of this corporation, with physicians duly licensed to practice their profession in the District of Columbia, who shall render such service to the members as may be provided in said contract. One of said physicians shall be designated as the Medical Director, who, with the approval of the Trustees, may engage the services of such assistants, orderlies, nurses, or other help, in order to properly render the services contracted for."

Article V was amended on May 25, 1937, to include the following:

"Section 6. The Medical Director shall render such reports as the Board of Trustees shall require."

Section 6 of Article V was amended, on May 2, 1938, to read as follows:

"Section 6. The Board of Trustees shall in no way regulate or supervise the practice of medicine by any physician with whom it contracts for the care of members nor shall it in any way supervise, regulate or interfere with the usual professional relationship between such physician and his patient member, and every such contract entered into by and between a physician and the corporation shall contain a positive covenant to that effect."

"Article VI dealt with Finance.

"Article VII.

"Dues.

Section 1:

"The dues for membership in this corporation shall be Three Dollars and Thirty Cents (\$3.30) per month for married persons or single persons having dependents, and Two Dollars and Twenty Cents (\$2.20) per month for single persons having no dependents, and shall be paid in advance semi-monthly. Where permitted, the corporation shall be given the right to require deduction for its use and benefit from the employee's wages due him from any of the federal branches or agencies by which he or she is employed the amount of his current dues together with any payment for back dues owed to the corporation.

That section was amended on April 6, 1937, to read as follows:

"Section 1. There shall be two classes of membership, i.e., (1) family membership; and (2) individual membership. Family membership shall include married or single members with dependents as hereinafter defined and the dues for membership of such class shall be \$3.30 per month. Individual membership shall include married or single members having no declared dependents, and the dues for membership of such class shall be \$2.20 per month."

Section 1 of Article VII was amended on Sept. 19, 1938, to read as follows:

"Section 1. A member may have services procured for himself alone or for himself and any or all of his eligible dependents. A dependent is a member's spouse or a person related by blood, marriage or adoption to the member and who is supported by and lives with that member. A child dependent is a dependent who has not attained the age of 21.

"(a) Whenever a person ceases to qualify as a dependent of a member no further services shall be procured with respect to such person after the expiration of the month following the month in which he becomes disqualified.

"(b) Services shall be procured for and dues paid with respect to a child born to such member (unless previous notice to the contrary has been given the Association in writing by the member). For purposes of determining dues a child or other dependent shall remain a dependent so long as he remains eligible, until written notice to the contrary is received from the member. Any increase in dues shall be effective the first day of the month following the month in which such child is born, attains age 18 or attains age 21, as the case may be. In the event of death of a dependent or notice that such dependent is no longer to have service, the reduction in a member's dues shall be effective on the first day of the succeeding month. In the case of the death of a member or upon his written notice to the Association of his resignation, all dues shall cease on the first day of the month succeeding such death or the effective date of such notice of resignation, and after the first of such month no further services shall be procured for the member's dependents.

"(c) In case notice of withdrawal of a person from membership or withdrawal of a dependent is received in the office of the Association later than the tenth day of the month, the membership dues and the services shall cease or be decreased on the first day of the second month succeeding that in which such notice is received. It shall be the duty of every member to give written notice to the Association of any fact that would change the rate of dues or other monies payable by him.

"(d) Whenever a member desires to have services procured for any dependent (except a newborn baby) who was not on Sept. 1, 1938 listed as a dependent in connection with his membership, he shall make application, tender \$1.00 for application fee and, unless such dependent is rejected because of physical condition, such member shall thereupon be entitled to have services procured for such dependent. Such services shall be procured on and after, and the dues shall be increased on, the first day of the month succeeding the date of physical examination.

"(e) Whenever any dependent desires and is eligible to become a member, such person may apply for membership, and such application shall be given preferred consideration. Medical examination in such cases and in other cases where circumstances are unusual, may be waived for such person and/or his dependents at the option of the Board of Trustees."

Section 1 (d) of Article VII was amended, on Oct. 3, 1938, to read as follows:

"Section 1 (d). Whenever a member desires to have services procured for any dependent (except a newborn baby) who was not on Sept. 1, 1938 listed by him as a dependent in connection with his membership, he shall make application, tender \$1.00 for application fee and, unless such dependent is rejected because of physical condition, such member shall thereupon be entitled to have services procured for such dependent. Such services shall be procured on and after, and the dues shall be increased on, the first day of the month succeeding the date of physical examination."

Section 1 (b) of Article VII was amended on Nov. 21, 1938 to read as follows:

"Section 1 (b). Services shall be procured for and dues paid with respect to a child born to such member (unless previous notice to the contrary has been given the Association in writing by the member). For purposes of determining dues a child or other dependent shall remain a dependent so long as he remains eligible, until written notice to the con-

trary is received from the member. Any increase in dues shall be effective the first day of the month following the month in which such child is born, attains age 18 or attains age 21, as the case may be. In the event of death of a dependent or notice, received prior to the 10th of the month, that such dependent is no longer to have service, the reduction in a member's dues shall be effective on the first day of the succeeding month. In the case of the death of a member or upon his written notice to the Association of his resignation, received prior to the 10th of the month, all dues shall cease on the first day of the month succeeding such death or the receipt of such notice of resignation, and after the first of such month no further services shall be produced for the member's dependents"

"Section 2:

"Members who join the corporation hereafter shall, for the first month, be charged dues for a full month if their application for membership is dated between the 1st and 15th of the month, and shall be charged dues for one-half month if their application is dated between the 16th and last day of the month."

Section 2 of Article VII was amended on Sept. 19, 1938 to read as follows:

"Section 2.

"(a) All members shall be required to pay a membership fee of \$10 which shall be paid for at the rate of not less than \$1.00 per month. The first installment shall be paid not later than the due date of the member's first monthly dues following the adoption of this amendment.

"(b) Upon full payment of the membership fee a suitable certificate shall be issued to the member.

"(c) Such certificate may be transferred, upon the payment of a transfer fee in such amount as is fixed by Board regulations, to any person who is accepted as a member, provided that the person whose certificate is transferred is a person not indebted to the Association and is a member in good standing who (1) has been a member two years, or (2) who has become disqualified from membership because of severance from Government service or (3) who removes from the territory served by the Association. The transferee of a membership certificate shall by virtue of such transfer be entitled to a credit of \$10 toward his membership fee. On death of a member his certificate shall be non-transferable and shall be null and void. Whenever a member is no longer employed by the executive branch of the Federal Government, or moves from the area served by the Group Health Association, at the sole discretion of the Trustees, such person may be repaid his \$10 membership fee or any portion he has paid the Corporation.

"(d) Proceeds of membership fees shall, in so far as possible, be used only for purchase and maintenance of equipment and other property."

Article VII was amended on Sept. 19, 1938, to include the following:

"Section 3.

"(a) After Aug. 1, 1938, any person desiring to become a member shall make payment of an application fee of \$5, plus \$1 for each dependent with respect to whom he desires to have services secured and shall fill out an application on a prescribed blank or blanks. If, after review of application and medical examination of all the persons on whose behalf services are requested, the application is not accepted, this fee shall be returned, unless the person applying is otherwise eligible for membership and desires to become a member under conditions stated in the next subsection.

"(b) In the case of applications not otherwise generally acceptable by reason of the physical condition of the member or a dependent, the Association, upon the recommendation of the Medical Director, may make special membership arrangements with such applicant with respect to the services to be procured for him by the Association."

Article VII was amended, on Sept. 19, 1938, to include the following:

"Section 4. After Aug. 1, 1938 every member who desires to procure services for a dependent not listed as such shall make application on a prescribed form and pay a \$1 application fee, which shall in no case be returned. If, after review of the application and medical examination of such dependent, the dependent is not generally acceptable by reason of physical condition, the Association upon the recommendation of the Medical Director may make special membership arrangements."

Article VII was amended, on Sept. 19, 1938, to include the following:

"Section 5. Membership dues shall for September 1938 and thereafter be payable the first of each month and shall be as follows:

Single member or head of family.....	\$2.20
Husband or wife.....	1.80
Child dependents under 18 (one or more).....	1.00
Child dependents, 18 to 21 (each).....	1.00
Adult dependents over 21 (each).....	2.00

New memberships shall become effective and dues payable on the first day of the month following acceptance of the person for membership or upon the 16th day of the same month if the Board so directs."

Article VII was amended, on Sept. 19, 1938, to include the following:

"Section 6. Any indebtedness of a member to the Association shall be added to and considered a part of the dues for the month succeeding that in which the indebtedness was incurred provided, however, that the Board of Trustees in its discretion may permit the payment of any indebtedness to be made in installments or forgive a portion or all of said indebtedness when the Trustees find that in equity and good conscience such action shall be taken. In the case of indebtedness other than for the monthly dues, the member shall be promptly notified of the amount of the indebtedness"

Article VII was amended, on Sept. 19, 1938, to include the following:

"Section 7. Except by amendment of these By-laws, no fees, dues or assessments of any kind not herein provided, shall be required of any member of the Association."

ARTICLE VIII

RESIGNATIONS

"Section 1. Any member of this corporation may withdraw therefrom by resignation and shall owe in such case dues for only thirty (30) days from the date of his or her resignation, he or she to have the privileges of membership during said thirty (30) day period. (As adopted March 22, 1937.)"

Section 1 of Article VIII was amended on May 25, 1937, to read as follows:

"Section 1. Any member of this corporation may withdraw therefrom by resignation and shall owe in such case dues for only thirty (30) days from the date of his or her resignation, he or she to have the privileges of membership during said thirty (30) day period, provided, however, that the member may withdraw his resignation in writing within the said period."

Article VIII was repealed on Sept. 19, 1938.

Article IX dealt with Amendments.

ARTICLE X

BENEFITS

"Section 1. To be able to avail themselves of medical and surgical service, the members must be located in, or its closely and adjacent territory, or must come to, the City of Washington, D. C. (As adopted March 22, 1937.)"

Section 1 of Article X was amended, on April 6, 1937, to read as follows:

"Section 1. The medical service to be rendered to members and dependents by the corporation shall be as follows:

"Medical and surgical examinations and treatments, including examinations in special departments, such as refractions of eyes; laboratory tests, X-ray examinations, surgical operations, confinement cases and professional consultations, nursing and ambulance facilities, house calls, and hospitalization in a semi-private room (two bed room) limited to a period not to exceed 21 days for any one illness. However, members desiring to occupy a private room may do so in which case the corporation will contribute the sum of \$4.00 per day toward the expense of such room for such period. In all hospital cases, the corporation will pay for semi-private room (two bed room) service only, except in the case of infectious or contagious diseases, in which case a maximum of \$4.00 per day will be paid for said period.

"The extent that medical service relating to the foregoing items will be furnished to members shall be determined and prescribed by the Medical Director or his representatives in each individual case."

Section 1 of Article X was amended, on May 25, 1937, by adding "not exceeding 21 days" to the second paragraph.

Section 1 of Article X was amended, on Oct. 25, 1937, to read as follows:

"ARTICLE X, Section 1. The medical service to be rendered to members and dependents by the corporation shall be as follows:

"Medical and surgical examinations and treatments, including examinations in special departments, such as refractions of eyes, laboratory tests, x-ray examinations, surgical operations, confinement cases and professional consultations, nursing and ambulance facilities, house calls, and hospitalization in a semi-private room (two-bed room) or a private room, limited in either case to a period not to exceed 21 days for any one illness; provided, however, that each member desiring to occupy a private room shall reimburse the corporation for so much of the cost of such room as shall exceed the sum of \$4.00 per day; provided, further, that such member shall make such payments to assure such reimbursement as the corporation shall require, and provided, that the benefits provided outside of the territory of the association shall be limited to the provision of a hospital room for the time and as is herein provided.

"The extent that medical service relating to the foregoing items will be furnished to members shall be determined and prescribed by the Medical Director or his representatives in each individual case."

Section 1 of Article X was amended, on May 2, 1938, to read as follows:

"Section 1. The contract or contracts to be made by his corporation on behalf of the members thereof with physicians, as provided in Section 5 of Article V, or with others, shall provide for the following services to members:

"Medical and surgical examinations and treatments, including examinations in special departments, such as refractions of eyes, laboratory tests, x-ray examinations, surgical operations, confinement cases, and professional consultations, nursing and ambulance facilities, house calls, and hospitalization in a semi-private room (two-bed room) or a private room, limited in either case to a period not to exceed 21 days for any one illness; provided, however, that each member desiring to occupy a private room or a semi-private room of his own choice shall pay so much of the cost of such room as shall exceed the sum of \$4.00 per day; provided, further, that such member shall make such advance payments to assure the aforesaid reimbursement as the Trustees shall require; and provided, further, that the benefits provided outside of the territory of the association shall be limited to the provision of a hospital room for the time and as is herein provided.

"Members or dependents in order to avail themselves of medical and surgical service shall come to the doctor's office if such is possible from the nature of their illness. Doctors will answer necessary house calls within a radius of ten miles from the District of Columbia line, except that the Medical Director may provide for house calls not exceeding twenty miles. Members will furnish such doctor with any information he may request relative to their condition and membership and should, at all times, have available their membership card for identification.

"The extent that medical service relating to the foregoing items will be furnished to members shall be determined and prescribed by the Medical Director or his representatives in each individual case."

Section 1 of Article X was amended, on Sept. 19, 1938, to read as follows:

"Section 1. The contract or contracts to be made by this corporation on behalf of the members thereof with physicians, as provided in these by-laws, or with others, shall provide for the following services:

"Medical and surgical examinations and treatments, including examinations in special departments, such as refractions of eyes, laboratory tests, x-ray examinations, surgical operations, confinement cases, and professional consultations, nursing and ambulance facilities, house calls and hospitalization in a semi-private room (two-bed room) or a private room, limited in either case to a period not to exceed 21 days for any one illness or accident and not to exceed a total of 42 days for any member or dependent during any one calendar year; provided, however, that when a member desires a private room or a semi-private room of his own choice for himself or his dependent he shall pay so much of the cost as shall exceed the sum of \$4.00 per day; provided, further, that each member shall make such advance payments or other arrangements to assure the said payment as the Trustees shall require; and provided, further, that the services procured outside of the territory of the Association shall be limited to the provision of hospital facilities for the time and as is herein provided.

"No hospitalization, and no service except that given under such contract or contracts shall be procured for any member or dependent, save upon prior written authorization by the Medical Director; Provided, that in cases of emergency, subsequent ratification by the Medical Director shall have the same effect as prior authorization; provided, however, that the Medical Director may not ratify any services save hospitalization procured outside of the service area.

"Any hospitalization procured shall be limited in time to the date of the patient's discharge or such shorter time as the Medical Director may deem proper.

"Hospitalization shall be construed to mean: (a) bed and board in a hospital, (b) general nursing care, (c) use of the operating room or delivery room when necessary, (d) services of an anesthetist, (e) ordinary surgical dressings, (f) ordinary medications, and (g) routine laboratory examinations; except, that where hospitalization is procured outside the service area or without prior authorization by the Medical Director, no more than \$15 may be allowed for the use of the operating or delivery room and no more than \$10 may be allowed for the services of an anesthetist.

"Members or dependents, in order to avail themselves of medical and surgical service, shall report to the clinic if such is possible from the nature of their illness. Doctors will answer necessary house calls within ten miles from the District of Columbia line, as provided in this article, and the Medical Director may provide for house calls not exceeding twenty miles. Members will furnish such doctor with any information he may request relative to their condition and membership and should, at all times, have available their membership cards for identification.

"The extent that medical service relating to the foregoing items will be furnished shall be determined and prescribed by the Medical Director or his representative in each individual case.

"Section 2. Any person referred to herein as a dependent, to be eligible to the benefits of the corporation, must be totally dependent upon the member of the corporation for a livelihood at the time of such person's disability and before need of medical service. However, under this provision persons who are working and receiving compensation for their services are not dependent, with the exception of wife or husband, or school children who work during the summer months only, may be considered dependent. Any member who accepts medical attention from a corporation doctor, or who has medical services performed for any person who he claims is dependent upon him and who is found not to be entitled to such medical service, shall reimburse the corporation for any payment the corporation may have made on his account, and, further, shall pay the corporation for the services of the doctor who attended the case, or the corporation may cause the same to be deducted from the wages due such employee as provided in Section 1 of Article VI of these by-laws. (As adopted March 22, 1937.)"

Section 2 of Article X was amended, on April 6, 1937, to read as follows:

"Section 2. The following medical service will not be furnished by the corporation:

- (1) Treatment of industrial accident cases;
- (2) Surgery of the brain or nervous system;
- (3) Mental cases, tuberculosis, drug or alcohol addiction; these cases will be treated only up to the time that the Medical Director recommends confinement in an institution."

Section 2 of Article X was amended, on May 25, 1937, to read as follows:

"Section 2. The following medical service will not be furnished by the corporation:

- (1) Treatment of industrial accident cases;
- (2) Surgery of the brain or nervous system;
- (3) After the time that the Medical Director recommends confinement in an institution in mental, tubercular, drug or alcohol addiction cases."

Section 2 of Article X was amended, on May 2, 1938, to read as follows:

"Section 2. The contract or contracts to be made by this corporation on behalf of the members, with physicians, as provided in Section 5 of Article V of these By-Laws, or with others, shall not provide for the following services to members:

- (1) Treatment of industrial accident cases;
- (2) Surgery of the brain or nervous system;
- (3) Any treatment after the time that the Medical Director recommends commitment to an institution in mental, tubercular, drug or alcohol addiction cases."

Section 2 of Article X was amended, on Sept. 19, 1938, to read as follows:

"Section 2. The contract or contracts to be made by this Association on behalf of the members, with physicians, as provided in these By-laws, or with others, shall not provide for the following services:

- (1) Treatment of industrial accident cases where treatment is provided under Federal or State Employees Compensation Laws to the extent of such provision;
- (2) Surgery of the brain or nervous system;
- (3) Any treatment after the time that the Medical Director recommends commitment to or hospitalization in an institution in mental, tubercular, drug, or alcohol addiction cases.

"Section 3. In all hospital cases, the corporation will pay for semi-private room, except in the case of infectious or contagious disease, in which case a maximum of Five (\$5.00) Dollars per day will be paid. (As adopted March 22, 1937.)"

Section 3 of Article X was amended, on April 6, 1937, to read as follows:

"Section 3. The members shall pay for the following items:

- (1) Medicines, drugs, surgical appliances such as orthopedic devices and crutches; eye glasses, artificial limbs or eyes and hearing devices;
- (2) Radium and deep x-ray treatments;
- (3) Dental work;
- (4) Oxygen tanks or tents and materials;
- (5) Blood transfusions;
- (6) Special nursing service if not ordered by the Medical Director;
- (7) Treatment, services, supplies and other items prescribed or ordered by an "outside doctor" including his fees.
- (8) Treatment of venereal diseases at the rate of Fifty Cents (\$0.50) per treatment.
- (9) Hospitalization in excess of that mentioned above.

The corporation shall make an effort to secure at reduced rates all the medical services and items for which the member is required to pay."

Section 3 of Article X was amended, on May 2, 1938, to read as follows:

"Section 3. Any contract entered into by the corporation on behalf of its members will require the members to pay for the following:

- (1) Medicines, drugs, surgical appliances, such as orthopedic devices and crutches; eye glasses; artificial limbs or eyes; and hearing devices;
- (2) Radium and deep x-ray treatments;
- (3) Dental work;
- (4) Oxygen tanks or tents and materials;
- (5) Blood transfusions;
- (6) Special nursing service if not ordered by the Medical Director;
- (7) Treatment, services, supplies and other items prescribed or ordered by a physician not in a contractual relationship with the corporation and its member, but employed by an individual member, including fees of such physician.
- (8) Treatment of venereal diseases at the rate of Fifty Cents (50c) per treatment.
- (9) Hospitalization in excess of that mentioned in Section 1 of this article.

The corporation shall make an effort to secure at reduced rates all the medical services and items for which the member is required to pay."

Section 3 of Article X was amended, on Sept. 19, 1938, to read as follows:

"Section 3. Any contract entered into by the Association on behalf of its members will require the members to pay for the following:

- (1) Medicine, drugs, surgical appliances, such as orthopedic devices and crutches; eye glasses; artificial limbs or eyes; and hearing devices;
- (2) Radium and deep x-ray treatments;
- (3) Dental work and dental x-rays;
- (4) Oxygen tanks or tents and materials;
- (5) Blood transfusions;
- (6) Special nursing service if not ordered by the Medical Director;
- (7) Treatment, services, supplies and other items prescribed or ordered by a physician not in a contractual relationship with the Association and its members, but employed by an individual member, including fees of such physicians;
- (8) Hospitalization in excess of that mentioned in Section 1 of this article, provided, however that in confinement cases the member shall in every case bear the first \$25 of hospitalization expense;
- (9) For each house call the member shall reimburse the association for travel expense of the physician in an amount not exceeding \$1.00; provided that no charge shall be made for travel expense for additional house calls after the first, made at the instance of the attending physician.

"Section 4. No member of this corporation or any of his or her dependents shall request the corporation doctor to call at his or her residence if such person is able to call at the doctor's office. Doctors will answer necessary house calls within a radius of ten miles from the District line. Members will, upon request of the corporation doctor, furnish such doctor with any information he may request relative to their eligibility to benefits from the corporation and should, at all times, have available their card for identification. (As adopted March 22, 1937.)"

Section 4 of Article X was amended, on April 6, 1937, to read as follows:

"Section 4. The corporation will not assume responsibility for furnishing unlimited medical service to members but will do so only to the extent of its resources and to the extent which, in each case, is considered desirable and necessary by the Medical Director."

Section 4 of Article X was amended, on May 25, 1937, to read as follows:

"Section 4. The corporation will not assume responsibility for furnishing unlimited medical service to members but will do so only to the extent of its resources."

Section 4 of Article X was amended, on Oct. 4, 1937 to read as follows:

"ARTICLE X, Section 4. The corporation does not provide insurance for its members but only undertakes to provide medical and hospitalization service for them as herein stated, and in any event will furnish such service only to the extent of its resources."

Section 4 of Article X was amended, on Oct. 25, 1937, to read as follows:

"ARTICLE X, Section 4. The corporation does not provide insurance for its members but only undertakes to provide medical and hospitalization service for them as herein stated, and in any event will furnish such service only to the extent of its resources."

Section 4 of Article X was amended, on May 2, 1938, to read as follows:

"Section 4 (a). The corporation does not guarantee that it will provide any or all of the services above specified and for which it will attempt to contract on behalf of its members and it shall not be liable to any member or his dependent in any manner whatever if it should for any reason, including lack of funds, be unable to procure any or all of said services when called upon to do so.

(b) The corporation does not guarantee that any physician or physicians with whom it may enter into a contract to render services to its members will perform such contract and its only obligation in the event of the breach of such contract by any physician shall be to use its best effort to procure the needed services from another source.

(c) The corporation shall not be liable to its members or their dependents for any act of omission or commission on the part of physicians or other persons with whom it may contract for the rendition of services to its members and their dependents."

Section 4 of Article X was amended, on Sept. 19, 1938, to read as follows:

"Section 4 (a). The Association does not guarantee that it will provide any or all of the services above specified and for which it will attempt to contract on behalf of its members and it shall not be liable to any member or his dependent in any manner whatever if it should for any reason, including lack of funds, be unable to procure any or all of said services when called upon to do so.

(b) The Association does not guarantee that any physician or physicians with whom it may enter into a contract to render services will perform or properly perform such contract, and its only obligation in the event of the breach of such contract by any physician shall be to use its best efforts to procure the needed services from another source.

(c) The Association shall not be liable to its members or their dependents for any act of omission or commission on the part of physicians or other persons with whom it may contract for the rendition of services to its members and their dependents.

"Section 5. Any member of the corporation who incurs hospital expense on account of himself or a dependent previously listed with the corporation, as a result of sickness or accident while absent from the territory served by the corporation, shall be reimbursed, upon certification of the physician in attendance, all or any part of such expense, but no amount will be paid in any case in excess of what would have been paid had the service occurred in the territory served by the corporation. Whenever any sickness or injury shall be caused to the member, or his dependent, by the tort of a third person and that person should pay for the medical or other expenses growing out of said injury, this corporation shall be subrogated to and be entitled to reimbursement for the medical or other services furnished and for which said member has collected from said third person. (As adopted March 22, 1937.)"

Section 5 of Article X was amended, on April 6, 1937, to read as follows:

"Section 5. The Trustees shall have the right to determine and modify the extent of the service to be furnished to members at any time they may decide to do so upon written notice to the members to that effect given fifteen (15) days prior to any such change."

Section 5 of Article X was amended, on Sept. 19, 1938 to read as follows:

"Section 5. The Trustees shall have the right to determine and modify the extent of the service to be furnished to members at any time they may decide to do so upon written notice to the members to that effect given fifteen (15) days prior to any such change."

Article X, on April 6, 1937, was amended to include the following:

"Section 6. To be able to avail themselves of medical and surgical service, the members or dependents must be located in, or within ten miles of the District of Columbia line, or must come to, the City of Washington, D. C."

Section 6 of Article X was amended, on May 25, 1937, to read as follows:

"Section 6. To be able to avail themselves of medical and surgical service, the members or dependents must be located in, or within ten miles of the District of Columbia line, or must come to, the City of Washington, D. C., except that the Medical Director may provide for house calls not exceeding twenty miles."

By amendment on Oct. 25, 1937, Section 6 of Article X was deleted.

Article X, on April 6, 1937, was amended to include the following:

"Section 7. Any person referred to herein as a dependent, to be eligible to the benefits of the corporation, must be totally dependent upon the member of the corporation for a livelihood at the time of such person's disability and before need of medical service. However, under this provision persons who are regularly working and receiving compensation for their services are not dependent, with the exception of wife or husband, or school children who work during the summer months only, may be considered dependent. Any member who accepts medical attention from the corporation doctor, or who has medical services performed for any person who he claims is dependent upon him and who is found not to be entitled to such medical service, shall reimburse the corporation for any payment the corporation may have made on his account, and, further, shall pay the corporation for the services of the doctor who attended the case, or the corporation may cause the same to be deducted from the wages due such employee as provided in Section 1 of Article VI of these by-laws."

Section 7 of Article X was amended, on May 25, 1937, to read as follows:

"Section 7. Any person referred to herein as a dependent, to be eligible to the benefits of the corporation, must be totally dependent upon the member of the corporation for a livelihood at the time of such person's disability and before need of medical service. However, under this provision persons who are regularly working and receiving compensation for their services are not dependent, with the exception of wife or husband, or school children who work during the summer months only, may be considered dependent. Any member who accepts medical attention from the corporation doctor, to which he is not entitled, or who has medical services performed for any person not entitled thereto shall reimburse the corporation for any payment the corporation may have made on his account, and, further, shall pay the corporation for the services of the doctor who attended the case, or the corporation may cause the same to be deducted from the wages due such employee."

Section 7 of Article X was amended, on Oct. 25, 1937, to read as follows:

"ARTICLE X, Section 7. Any person referred to herein as a dependent, to be eligible to the benefits of the corporation, must be totally dependent upon the member of the corporation for a livelihood at the time of such person's disability and before need of medical service. However, under this provision persons who are regularly working and receiving compensation for their services are not dependent, with the exception that wife or husband, or school children who work during the summer months only, may be considered dependent. Any member who accepts medical attention from the corporation doctor, to which he is not entitled, or who has medical services performed for any person not entitled thereto, shall reimburse the corporation for the cost, or, at the option of the corporation, the reasonable value, of any services rendered by the corporation on his account, and, further, shall pay the corporation for the services of the doctor who attended the case, or the corporation may cause the same to be deducted from the wages due such employee. (This section becomes Section 6 by amendment of Oct. 25, 1937)"

Section 6 of Article X was amended, on May 2, 1938, to read as follows:

"Section 6. Any person referred to herein as a dependent, to be eligible to the benefits of the corporation, must be totally dependent upon a member of the corporation for a livelihood prior to and at the time of such person's disability and prior to and at the time of need of medical service. Under this provision persons who are regularly working and receiving compensation for their services are not dependent, with the exception that wife or husband, or school children who work during the summer months only, may be considered dependent. Any member who accepts benefits hereunder to which he is not entitled, or who secures such benefits for any person not entitled thereto, shall pay a penalty commensurate with the value of the services so received as may be determined by the Board of Trustees."

Article X on April 6, 1937 was amended to include the following:

"Section 8. No member of this corporation or any of his or her dependents shall request the corporation doctor to call at his or her residence if such person is able to call at the doctor's office. Doctors will answer necessary house calls within a radius of ten miles from the District of Columbia line. Members will, upon request of the corporation doctor, furnish such doctor with any information he may request relative to their condition and eligibility to benefits from the corporation and should, at all times, have available their associate or membership card for identification."

Section 8 of Article X was amended on May 25, 1937 to read as follows:

"Section 8. Members or dependents in order to avail themselves of medical and surgical service shall come to the doctor's office if such is possible from the nature of their illness. Doctors will answer necessary house calls within a radius of ten miles from the District of Columbia

line, except that the Medical Director may provide for house calls not exceeding twenty miles. Members will, upon request of the corporation doctor, furnish such doctor with any information he may request relative to their condition and eligibility to benefits from the corporation and should, at all times, have available their associate or membership card for identification."

Section 8 of Article X was amended on Oct. 25, 1937 to read as follows:

"ARTICLE X, Section 8. Members or dependents in order to avail themselves of medical and surgical service shall come to the doctor's office if such is possible from the nature of their illness. Doctors will answer necessary house calls within a radius of ten miles from the District of Columbia line, except that the Medical Director may provide for house calls not exceeding twenty miles. Members will, upon request of the corporation doctor, furnish such doctor with any information he may request relative to their condition and eligibility to benefits from the corporation and should, at all times, have available their associate or membership card for identification."

(This section becomes Section 7 by amendment of Oct. 25, 1937.)

Section 7 of Article X was repealed on May 2, 1938.

Article X, on April 6, 1937, was amended to include the following:

"Section 9. Any member of the corporation who incurs hospital expense on account of himself or a dependent previously listed with the corporation, as a result of illness falling within the by-laws and rules of the corporation, or accident while absent from the territory served by the corporation, shall be reimbursed, upon satisfactory certification or evidence thereof by the attending physician approved by the Medical Director of this corporation, all or any part of such expense, but no amount will be paid in any case in excess of what would have been paid had the illness or accident occurred in the territory served by the corporation."

Whenever any illness or injury shall be caused to the member or his dependent by the tort of a third person and that person should pay for the medical or other expense growing out of said injury, this corporation shall be subrogated to and be entitled to reimbursement for the medical or other services furnished by it and for which said member has collected from said third person."

Section 9 of Article X was amended, on May 25, 1937, to read as follows:

"Section 9. Any member of the corporation while temporarily absent from the territory served by the corporation, who incurs hospital expense on account of himself or a dependent previously listed with the corporation, as a result of illness or accident falling within the by-laws and rules of the corporation, shall be reimbursed, upon satisfactory certification or evidence thereof by the attending physician approved by the Medical Director of this corporation, all or any part of such expense, but no amount will be paid in any case in excess of what would have been paid had the illness or accident occurred in the territory served by the corporation. Whenever any illness or injury shall be caused to the member or his dependent by the tort of a third person and that person should pay for the medical or other expense growing out of said injury, this corporation shall be subrogated to and be entitled to reimbursement for the medical or other services furnished by it for which said member has collected from said third person."

Section 9 of Article X was deleted by amendment of Oct. 25, 1937.

(Here occurred extended discussion to the Court as whether or not a statement by Dr. John H. Trinder at a meeting Oct. 25, 1937 would be read.)

[Because of the material for the annual meeting of the Association in this issue, the amount of space devoted to the trial necessarily is limited. The proceedings of the trial will be completed in the next few issues.—Ed.]

OFFICIAL NOTES

RADIO BROADCASTS

"Doctors At Work" is the title of the sixth annual series of dramatized radio programs being presented by the American Medical Association and the National Broadcasting Company. The series began on November 13 and will close with a broadcast from Cleveland on June 4.

Tickets are available for each broadcast. Address the Bureau of Health Education, American Medical Association, 535 North Dearborn Street, Chicago. Tickets are free, but a stamped self-addressed envelop should accompany requests.

The next three programs to be broadcast, together with their dates and titles, are as follows:

- April 30. Baby's Birthright.
- May 7. So Mothers May Live.
- May 14. Physician to the Community.

The program is scheduled over the Blue network of the National Broadcasting Company Wednesdays at 10:30 p. m. eastern daylight saving (9:30 eastern standard) time (9:30 Chicago daylight saving, 8:30 central standard, 7:30 mountain standard, 6:30 Pacific standard time).

WOMAN'S AUXILIARY

California

The Fresno auxiliary recently completed highly successful Hygia and New Membership drives. Drs. A. E. Anderson and George H. Kress were guests of honor at a recent meeting at which Dr. Kress urged the group to pay strict heed to the impending medical legislation. Mr. Donald Wonder, director of the endocrine department at the Cutter Laboratory at Berkeley, described the work of the laboratory.

Mrs. A. E. Anderson, state president, reminded the San Diego members that the Basic Science Law would come up soon and that it would be necessary to have 200,000 signatures to the petition. The medical societies are asking the auxiliaries to assist in securing these signatures. The Benevolence Committee provided a year's supply of tooth powder, wash cloths and dusting powder for the Vauclain Home, which is a tuberculosis ward for the children of San Diego County. In addition, all the children were supplied with two gifts each. Mrs. Willard Newman gave a monologue entitled "A Doctor's Wife at the Telephone," which was a delightfully amusing view of what goes on in a doctor's home two hours before a formal dinner party.

Georgia

The Woman's Auxiliary to the Medical Society of the Third District met recently in Columbus. Officers for the coming year are: district manager, Mrs. C. P. Savage, Montezuma; district manager-elect, Mrs. J. L. Gallemore, Perry, and secretary-treasurer, Mrs. Francis Blackmar, Columbus.

State officers present were Mrs. H. G. Banister, of Ila, who spoke on "Mobilizing for Service to Humanity"; Mrs. Lee Howard, of Savannah, president-elect, who spoke on "Organization," and Mrs. G. L. Loden, of Colbert, chairman of health films, who asked that each county auxiliary sponsor at least two films. Mrs. Banister announced that she is offering \$5 for the best visual report of the year's work. Dr. J. C. Patterson, of Cuthbert, president of the Medical Association of Georgia, gave a paper on "Progress in the Practice of Medicine Since 1865." After adjournment, tea was served by members of the Muscogee County auxiliary and later the guests were entertained by the doctors at a banquet.

Mrs. Eustace A. Allen, of Atlanta, past president of the Woman's Auxiliary to the Medical Association of Georgia and third vice president of the national group, spoke on "Socialized Medicine" at the first regular meeting of the Woman's Auxiliary to the Cobb County Medical Society. The meeting was held at the home of the president, Mrs. W. H. Perkinson, in Marietta.

Wisconsin

Thirty-eight members of the Dane County auxiliary heard Mr. J. G. Crownhart, secretary of the State Medical Society of Wisconsin, give a résumé of the aims of the medical profession regarding the centennial convention to be held in Madison in 1941. The auxiliary placed *Hygia* in four town libraries and in forty-eight schools in the county and purchased twenty layettes, rubber sheeting and Christmas toys for distribution by the county nurse. Mrs. C. N. Neupert of Madison is president of this auxiliary.

MEDICAL LEGISLATION

MEDICAL BILLS IN CONGRESS

Changes in Status.—The Senate Committee on Military Affairs has tabled S. 783, the Murray bill, providing for the deferment of selection of medical students, interns and certain others for active service under the Selective Training and Service Act. H. R. 2475 has been passed by the House, with amendments, proposing to prohibit prostitution within such reasonable distance of military and naval establishments as the Secretaries of War and Navy shall determine to be needful to the efficiency, health and welfare of the Army and Navy.

Bill Introduced.—H. R. 4418, introduced by Representative Faddis, Pennsylvania, undertakes to amend the Selective Training and Service Act of 1940 by providing that any man selected for training and service under the act who has been awarded a degree of doctor of medicine or doctor of dental surgery by a recognized medical or dental school, who holds a valid license to practice medicine, surgery or dentistry in any state, territory or possession of the United States or the District of Columbia and is engaged in such practice at the time of his selection and whose physical and mental fitness for such training and service has been satisfactorily determined shall, in lieu of induction for such training and service, be commissioned as an officer in the Medical Department Reserve, Officers' Reserve Corps and ordered into active military service as provided by law. This bill also provides that medical and dental students at recognized medical and dental schools, and interns and resident physicians, surgeons and dentists at recognized hospitals, shall be exempt from training and service but not registration under the act. The bill further provides that any such medical or dental student, intern or resident physician, surgeon or dentist who is a member of a reserve component of the land or naval forces of the United States shall not be ordered or called to active duty or into active service in any of such forces without his consent, except in time of war. This bill is identical with the Murray bill as introduced in the Seventy-Sixth Congress and reintroduced in the Seventy-Seventh Congress as S. 197.

STATE MEDICAL LEGISLATION

Connecticut

Bill Passed.—Substitute for S. 1031 passed the Senate, April 15, proposing so to amend the law requiring an action based on the alleged malpractice of a physician, surgeon, dentist, hospital or sanatorium to be instituted within one year from the date of the act of malpractice complained of as to impose the same time requirement with respect to the institution of actions based on the alleged malpractice of a chiropractor.

Florida

Bill Introduced.—H. 87 proposes to enact an entirely new naturopathic practice act which, if enacted, would permit naturopathic licentiates to practice without restriction other than the performance of major surgery. Significantly, the bill refers to naturopathy as "naturopathic medicine," to naturopaths as "naturopathic physicians" and to the board of naturopathic examiners, created by the bill, as the board of "naturopathic medical examiners."

Massachusetts

Bill Introduced.—S. 636 proposes to require the state to furnish recipients of old age assistance "hospital and medical services and expenses of medicine and medical care."

South Carolina

Bill Introduced.—H. 462 proposes to make it unlawful for any school of medicine in the state, receiving or partially supported by appropriations from the state, to adopt any rule or faculty requirement relating to the admission, readmission or promotion of students which does not apply with equal force and effect and without discrimination to all students.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION AND PUBLIC HEALTH.)

CALIFORNIA

Heart Association Meeting.—The California Heart Association will hold its annual meeting at Del Monte, May 4. A symposium on digitalis lanata will open the session, with the following speakers: Drs. Maurice Sokolow, Francis L. Chamberlain and Francis J. Rochex, San Francisco. Among other speakers will be Drs. William D. Evans, Los Angeles, on "The Electrocardiographic Pattern of Left Ventricular Strain (Barnes); Clinical and Pathologic Study"; John K. Lewis, San Francisco, "Auricular Flutter with Special Reference to Its Treatment with Digitalis," and Lester S. Lipsitch, San Francisco, "Certain Aspects of Carotid Sinus Sensitivity."

Annual Meeting of California Medical Association.—The seventieth annual session of the California Medical Association will be held at the Hotel Del Monte, Del Monte, May 5-8, under the presidency of Dr. Harry H. Wilson, Los Angeles, and with the Monterey County Medical Society acting as host. Out of state speakers will include:

Dr. William Warner Watkins, Phoenix, Ariz., Facts and Fancies in Lower Back Disability.

Dr. Robert F. Loeb, New York, Problems of Adrenal Insufficiency.

Dr. Waltman Walters, Rochester, Minn., Surgery of Adrenal Tumors.

Dr. John H. Hutton, Portland, Ore., Use of Avertin Nitrous Oxide Anesthesia in Thoracic Surgery.

Dr. John H. Musser, New Orleans, Role of the Medical Profession in the Defense Industrial Program.

Mr. John M. Pratt, Chicago, Report on National Physicians' Committee for the Extension of Medical Service.

A symposium on military medicine will be held Thursday morning. There will also be symposiums on blood disorders, the sulfanilamide group of drugs, anoxia and histopathology of the more common skin lesions. Panel discussions will be held on intestinal obstruction and problems in the care of the aged, and a round table discussion of hormones producing tumors of the ovary. Medical, surgical and public health films will be shown in the Copper Cup Room during the morning hours and, unless otherwise announced, a different film will start on each half hour, commencing at 9 o'clock and continuing up to the noon hour. The annual clinical session on cancer will be devoted this year to "Cancer of the Lung." Miscellaneous activities include a conference in microscopic pathology, a radiologic meeting, the conference of secretaries of component county medical societies, annual meeting of the California Heart Association, the session of the Western Association of Industrial Physicians and Surgeons, and the exhibition of the California Physicians' Art Association. The Woman's Auxiliary to the California Medical Association will hold its twelfth annual meeting at this time, with headquarters at the Hotel Del Monte and sessions at the Peninsula Country Club.

CONNECTICUT

Changes in Health Officers.—Dr. Roy C. Ferguson, Rockville, has been appointed health officer of Vernon, succeeding Dr. Thomas F. O'Loughlin, Rockville. Dr. Irwin Grammiss, Saybrook, has been made health officer of the borough of Fenwick, Old Saybrook. Dr. Edward J. Finn has been appointed health officer of Shelton, succeeding Dr. Charles K. Skreczko Jr. Dr. Morton H. Chapnick, Putnam, is serving as health officer of Thompson during the absence of Dr. Joseph L. Roy; the latter will return on Jan. 8, 1942.

Nursing Institutes on Poliomyelitis.—The Connecticut State Department of Health sponsored nursing institutes on poliomyelitis in Bridgeport April 14, Hartford April 15 and Norwich April 16. The preliminary program listed the following speakers:

Drs. James D. Trask, New Haven, and Eugene E. Lamoureux, Hartford, Epidemiologic and Medical Aspects of Poliomyelitis.

Dr. Paul P. Swett, Bloomfield, Orthopedic Aspects of Poliomyelitis. Katherine Allen, R.N., New York, Nursing Care in Poliomyelitis (with demonstrations) and The Nurse and Physical Therapy.

Dr. Muriel A. C. Downer, New Haven, Principles of Physical Therapy in the Treatment of Poliomyelitis.

FLORIDA

State Medical Meeting.—The sixty-eighth annual meeting of the Florida Medical Association will be held at the Roosevelt Hotel, Jacksonville, April 28-30, under the presidency of Dr. John Samuel Turberville, Century. Among the speakers will be:

- Dr. Elmo D. French, Miami, Sporotrichosis.
- Dr. Hillard W. Willis, Coral Gables, Congenital Cystic Lung Disease in Infancy (report of a case).
- Dr. Carlos A. P. Lamar, Miami, Application of the Synthetic Sex Hormones, Male and Female, in Their Newer Forms.
- Dr. Charles J. Heinberg, Pensacola, Preventiculousis.
- Dr. Richard M. Fleming, Miami, Surgical Treatment of Extensive or Advanced Cancers of the Skin.
- Dr. Abraham R. Hollender, Miami Beach, Fallacious Views Concerning Rhinologic Surgery and Factors Influencing More Successful Results.
- Dr. Louie M. Limbaugh, Jacksonville, Use of Quinidine Sulfate in the Treatment of Auricular Fibrillation.

Dr. Seale Harris, professor emeritus of medicine, University of Alabama School of Medicine, University, will address a general session Tuesday morning on "Hyperinsulinism: Induced and Spontaneous Hypoglycemia." The program also includes a symposium on obstetrics by Drs. Robert G. Nelson, Tampa; James M. Hoffman, Pensacola, and Samuel R. Norris, Jacksonville. The stag smoker will be Monday evening at the George Washington Hotel and the annual banquet Tuesday evening. The past presidents' breakfast will be held Tuesday. Specialty group meetings will include the Florida Railway Surgeons' Association, Florida Pediatric Society, Florida section of the American College of Physicians, Florida Society of Dermatology and Syphilology, Florida Society of Ophthalmology and Otolaryngology, Florida Association of Industrial Surgeons, health officers' section of the Florida Public Health Association, Florida Society of Obstetrics and Gynecology and the Florida section of the American College of Surgeons.

ILLINOIS

The Women's Field Army.—The Women's Field Army of the American Society for the Control of Cancer during April is conducting its sixth annual enrolment campaign. This organization, launched in 1936, now has in forty-seven states about four thousand six hundred local units and fifty-four divisions which seek to form educational and enlistment units in every community and county. The medical aspects of the work of the Women's Field Army for the Control of Cancer in Illinois are supervised by an advisory committee of the Illinois State Medical Society, of which Dr. John A. Wolfer, Chicago, is chairman. The Illinois commander of the Women's Field Army is Mrs. Arthur I. Edison, Chicago, who is also vice president of the Woman's Auxiliary to the Illinois State Medical Society. The Illinois headquarters of the Women's Field Army are at 48 West Division Street, Chicago. Telephone Whitehall 7838.

Bowen's Conviction Set Aside.—The Illinois Supreme Court set aside the conviction of A. L. Bowen, former state director of public welfare, on charges of omission of duty in failing to safeguard the water supply at Manteno State Hospital at Manteno, the Chicago *Tribune* reported, April 16. Sixty persons died of typhoid in the hospital in 1939. Bowen was convicted of neglect of duty, ordered removed from office and fined \$1,000 by Judge James V. Bartley of Joliet in the Kankakee County circuit court last June. The supreme court ruled that the state failed to prove Bowen guilty and said: "It was not proved, and we cannot assume, that typhoid bacillus ever was found in the drinking water." Bowen's defense was that the epidemic was not caused by contaminated drinking water but was traceable to a woman carrier of the disease. At the trial experts disagreed on whether the epidemic was water borne or carrier borne. Bowen was found guilty of negligence in ignoring health department reports that foreign matter had been found in the Manteno water supply. He was first tried by a jury, which was discharged when it failed to reach a verdict. The second trial was without a jury.

Chicago

Branch Meetings.—Dr. William C. Menninger, Topeka, Kan., addressed the North Shore Branch of the Chicago Medical Society, April 1, on "Psychiatry in Every Day Life." A joint meeting of the South Side, South Chicago, Calumet and Stock Yards branches was addressed March 27 by Dr. Waltman Walters, Rochester, Minn., on "Newer Aspects of Physiology of the Kidney and Relation of Unilateral Kidney Infection to Hypertension." Dr. Louis G. Herrmann, Cincinnati, discussed "Practical Aspects of the Management of

Arterial Insufficiency in the Extremities" before the Aux Plaines Branch March 28. Dr. Elmer G. Horton, Columbus, Ohio, spoke before the Englewood Branch April 1 on "Some of the Changes in Pediatrics and Contagious Diseases During Fifty Years." Dr. John T. King, Baltimore, addressed the North Side Branch April 3 on "Effort Syndrome."

IOWA

State Medical Meeting in Davenport.—The Iowa State Medical Society will hold its ninetieth annual session at the Hotel Blackhawk, Davenport, May 14-16, under the presidency of Dr. Frank P. McNamara, Dubuque, and with the Scott County Medical Society acting as host. Included on the program will be the following out of state speakers:

- Dr. Charles W. Mayo, Rochester, Minn., Surgical Treatment of Carcinoma of the Lower Portion of the Colon.
- Dr. Fredrick A. Willius, Rochester, Certain Considerations of Coronary Disease.
- Brig. Gen. Shelley U. Marietta, Washington, D. C., Military Medicine in Its General Application.
- Dr. Nathan B. Van Etten, New York, President, American Medical Association, American Health and National Defense.
- Dr. Ralph C. Brown, Chicago, Hydrochloric Acid Neutralization and Other Factors in Treatment of Gastric and Duodenal Ulcer.
- Dr. Joseph L. Baer, Chicago, The Significance of Diagnosis in Obstetrics.
- Dr. Samuel Salinger, Chicago, Rhinoplasty from the Cosmetic Point of View.
- Dr. Raymond B. Allen, Chicago, The Need for Greater Interprofessional Cooperation in a Democracy.
- Dr. William H. Sebrell Jr., Washington, D. C., Vitamin B.
- Dr. John M. Shaul, New York, Clinical Aspect of the Newer Sulfonamide Drugs.
- Dr. Milton C. Winternitz, New Haven, Conn., Some Aspects of the Relation of the Kidneys to Cardiovascular Disease.
- Dr. William C. Beck, Chicago, Management of Lymphedema.

The sessions Wednesday and Friday afternoons will be devoted to sectional conferences; on Thursday afternoon the society will be host to the Iowa Interprofessional Association. Entertainment will include a military surgeons' dinner Wednesday evening, addressed by General Marietta; a smoker, annual banquet and various luncheons. The Central States Society of Industrial Medicine and Surgery will conduct a symposium on trauma Tuesday afternoon May 13. Out of state speakers will include Drs. Willard Van Hazel, Chicago; John L. Garvey, Milwaukee; James E. M. Thomson, Lincoln, Neb., and William R. Cubbins, Chicago. Dr. Hiram Winnett Orr, Lincoln, will address the dinner session on "Relationship of the New Antiseptics to the Treatment of Infected Wounds and Septicemia." The State Society of Iowa Medical Women and Branch 19, American Medical Women's Association, will meet Wednesday May 14. The woman's auxiliary to the state medical society will hold its twelfth annual meeting on May 9.

MASSACHUSETTS

Meeting of Biologists.—The Boston Society of Biologists will meet at the Harvard Medical School, Boston, April 30, with the following speakers:

- Dr. Albert H. Coons, Chemical Conjugation of Antibodies Without Destruction of Their Function.
- Herbert R. Morgan, A.M., Production of a Condition Resembling Typhoid Fever by Means of a Purified Antigen of the Typhoid Bacillus.
- John F. Enders, Ph.D., Results Obtained in a Laboratory Study of the Recent Epidemic of Influenza.
- J. Howard Mueller, Ph.D., The Production of Tetanus Toxin on a Peptone-Free Medium.

MICHIGAN

Dr. Douglas Named Health Commissioner of Detroit.—Dr. Bruce H. Douglas, acting superintendent of Herman Kiefer Hospital and tuberculosis controller for the Detroit Department of Health, has been appointed health commissioner of Detroit, effective April 15, to succeed Henry F. Vaughan, Dr.P.H., who resigned to become professor of public health at the University of Michigan, Ann Arbor. Dr. Douglas graduated at Rush Medical College, Chicago, in 1921. He went to the William H. Maybury Sanatorium, Northville, in 1922, becoming superintendent in 1924. He became tuberculosis controller for the Detroit board of health in 1933 and in the same year was chosen president of the Michigan Tuberculosis Association. Other appointments to the city department of health announced at this time include those of Dr. Joseph G. Molner as deputy commissioner and director of medical service, succeeding Dr. Fred M. Meader, who retired on January 1, and Dr. Garner M. Byington as associate physician and director of child welfare and school health service.

MINNESOTA

Dr. Wangenstein Wins Philadelphia Prize.—The John Scott Medal, given by the city of Philadelphia for outstanding achievement in medical science, has been awarded to Dr. Owen H. Wangenstein, professor and head of the department of surgery, University of Minnesota Medical School, Minneapolis, it is announced. The award, which also includes a cash gift of \$1,000, was made for Dr. Wangenstein's development of a suction siphonage treatment of acute intestinal obstruction. He received the Samuel Gross Medal from the Philadelphia Academy of Surgery in 1935. Dr. Wangenstein graduated at the University of Minnesota Medical School in 1922, taking a Ph.D. in surgery in 1925. The following year he joined the teaching faculty of his alma mater as instructor in surgery, becoming assistant professor in 1927, associate professor in 1928 and professor in 1931. He has been director of the department of surgery and surgeon in chief at University Hospital since 1930. In 1939 Dr. Wangenstein was chosen president of the Minnesota Pathological Society.

NEVADA

Personal.—Dr. Rodney E. Wyman, Reno, has been appointed superintendent of the Nevada State Mental Hospital, Reno, succeeding Dr. James C. Ferrell, who resigned.

Annual Registration Due May 1.—All persons holding licenses to practice medicine in Nevada are required by law to pay annually to the treasurer of the Board of Medical Examiners, on or before May 1, a tax of \$2. Failure to do so operates to forfeit a licentiate's right to practice medicine, and his license to practice can be reinstated thereafter only on the payment of a \$10 penalty.

NEW YORK

Postgraduate Courses.—The council committee on public health and education of the Medical Society of the State of New York is sponsoring "teaching days" and postgraduate lectures for several counties. A teaching day on malignant disease was arranged for the Dutchess County Medical Society, Poughkeepsie, April 9, with Drs. Arthur Purdy Stout, George E. Binkley and Cornelius P. Rhoads, New York, as the speakers. Regional maternal welfare teaching days were held in Syracuse on April 3 with Dr. Henry W. Schoeneck, Syracuse, as chairman and in Rochester on April 9 with Dr. Ward L. Ekas, Rochester, the regional chairman. Dr. Clarence E. de la Chapelle, New York, arranged courses of five lectures on heart disease for Chenango County to be given in Norwich and Broome County in Binghamton weekly during April and the last on May 8. A course on general medicine was arranged by Dr. William S. Ladd, New York, for the Oneida County Medical Society, Utica, during March. One on hemorrhage arranged by Dr. Albert F. R. Andresen, Brooklyn, was given for the St. Lawrence County Medical Society in Ogdensburg and the Jefferson County Medical Society in Watertown on five Thursdays beginning March 27. The Tioga County Medical Society had a course on obstetrics alternately in Waverly and Oswego on Wednesdays from March 26 to April 23.

New York City

Course in Tropical Medicine.—The New York Post-Graduate Medical School, Columbia University, announces a five day course in "Recent Advances in Tropical Medicine," May 19-23, under the direction of Dr. Zacharias Bercovitz. Authorities in their respective fields will give lectures and demonstrations, clinical and laboratory material will be available for study and the students will have an opportunity for practical work in clinical parasitology. The lecturers and their subjects will include:

- Malaria, Dr. Lowell T. Coggeshall, Rockefeller Institute for Medical Research.
- Yellow fever, Dr. Johannes H. Bauer, Rockefeller Institute.
- Intestinal parasites (helminths), Norman R. Stoll, Sc.D., Rockefeller Institute.
- Amebic dysentery, Drs. Thomas T. Mackie, Columbia University College of Physicians and Surgeons; Ralph W. Nauss, Cornell University Medical College, and Dr. Bercovitz.
- Bacillary dysentery, Drs. Ralph S. Muckenfuss and Samuel Frant, New York City Department of Health, and Dr. Bercovitz.
- Tropical skin diseases, Dr. Howard Fox, consulting dermatologist, Bellevue Hospital.
- Kala-azar, Dr. Claude E. Forkner, Cornell University.
- Leptospirosis, relapsing fever and ratbite fever, Dr. Elliston Farrell, Long Island College of Medicine, Brooklyn.
- Lymphogranuloma venereum, Dr. Arthur W. Grace, Long Island College.

OHIO

Dr. Crile Improves.—Dr. George W. Crile, Cleveland, who developed pneumonia following injury in an airplane accident near Vero Beach, Fla., April 3, is reported to be improving and is expected to be able to return to Cleveland soon.

PENNSYLVANIA

Society News.—Dr. Jacob Goldblum, Uniontown, addressed the Fayette County Medical Society in Uniontown, April 3, on "The Field of X-Ray Therapy."—Dr. Hobart A. Reimann, Philadelphia, was the guest speaker and clinician at the annual spring clinic of the Lycoming County Medical Society, Williamsport, April 11, on "Undulant Fever."—Dr. Leonard F. Bush, Danville, addressed the Centre County Medical Society, Bellefonte, April 10, on "Minor Surgery in the Office."—Drs. John W. Shirer, Pittsburgh, and Lytle John Powell, Bellevue, addressed the Mercer County Medical Society, Grove City, April 9, on disease of the thyroid and peritoneoscopy, respectively.

TEXAS

State Medical Meeting at Fort Worth.—The seventy-fifth annual session of the State Medical Association of Texas will be held May 13-15 at the Hotel Texas, Fort Worth, under the presidency of Dr. Preston Hunt, Texarkana. Guest speakers will address general and section meetings and will also participate in clinical discussion luncheons. Addresses at the general meetings will be:

- Dr. Ralph H. Major, Kansas City, Mo., Importance of Physical Diagnosis in the Practice of Medicine.
- Dr. Everett D. Plass, Iowa City, Hypertension in Pregnancy.
- Dr. Algernon B. Reese, New York, The More Recent Advances in Ophthalmology.
- Dr. Frederic W. Schlutz, Chicago, Present Day Possibilities of Endocrine Therapy in Pediatrics.
- Dr. William J. Kerr, San Francisco, Angina Pectoris—Etiology, Differential Diagnosis and Treatment.
- Dr. Roscoe R. Graham, Toronto, Ont., Present Status of Surgical Procedures in the Biliary Tract.
- Dr. George W. Holmes, Boston, Present Status of Radiation Treatment of Neoplastic Diseases.
- Dr. James B. McNaught, San Francisco, Medical and Public Health Aspects of Trichinosis.
- Dr. Lawrence S. Fallis, Detroit, Diagnosis and Treatment of Pancreatitis.
- Dr. Waller S. Leathers, Nashville, Tenn., Recent Advances in Public Health.

Related organizations that will hold their annual meetings on Monday May 12 are the Texas Railway and Traumatic Surgical Association, Texas Society of Gastro-Enterologists and Proctologists, Texas State Heart Association, Texas Allergy Association, Texas Orthopedic Association, Texas Association of Medical Anesthetists, Texas Neurological Society and the Conference of County and City Health Officers. The Texas Pediatric Society will observe its twentieth anniversary with a dinner and dance. A Texas chapter of the American College of Chest Physicians will be organized on May 13. The guest speakers of the state medical association will address some of these special societies. The Woman's Auxiliary will hold its twenty-third annual session, May 12-14.

WASHINGTON

Annual Surgical Meeting.—The Spokane Surgical Society held its annual meeting April 19 at the Davenport Hotel, Spokane, with Dr. Alfred Blalock, professor of surgery at Vanderbilt University School of Medicine, Nashville, Tenn., as guest speaker. Dr. Blalock conducted a round table discussion on "Preoperative and Postoperative Treatment of Surgical Patients" and spoke in the afternoon on "Surgery of Several Types of Diseases of the Heart and Pericardium." In addition, he delivered an address at the banquet on "Shock: A Consideration of the Pathogenesis, Prevention and Treatment."

GENERAL

Society News.—Dr. George R. Wilkinson, Greenville, S. C., was named president-elect of the Tri-State Medical Association of the Carolinas and Virginia at the annual meeting in Greensboro, N. C., recently, and Dr. Addison G. Brenizer, Charlotte, N. C., was installed as president. Vice presidents elected were Drs. Joseph W. Hooper, Wilmington, N. C.; Henry P. Langston, Danville, Va., and George H. Bunch, Columbia, S. C. Dr. James M. Northington, Charlotte, was reelected secretary. Next year's meeting will be in Greenville, S. C.

Current List of Medical Literature.—The Army Medical Library has recently begun publication of the *Current List of Medical Literature* as an adjunct of the Medicofilm Service operated by the library. Titles are listed in a form resembling the table of contents in a journal, under general headings such as "Anatomy, Embryology, Morphology," "Cardiology," "Dietetics, Metabolism," "Hospital Publications." The list is published weekly under the auspices of the executive committee of the Friends of the Army Medical Library and the subscription price is \$5.

Awards in Traffic Safety Contest.—Dallas, Texas, and Kansas City, Mo., tied for first place among cities in the traffic safety contest conducted annually by the National Safety Council. Connecticut won the grand award for states. Dallas and Kansas City were also tied for first place in the group of cities with populations between 250,000 and 500,000. Washington was first in cities with 500,000 or more of population; Chattanooga, Tenn., in the 100,000 to 250,000 group; Lakewood, Ohio, in the 50,000 to 100,000 group; Watertown, N. Y., in the 25,000 to 50,000 group; La Grange, Ill., in the 10,000 to 25,000 group. In addition, one hundred and forty-one cities were placed on a special honor roll for going through 1940 without a traffic fatality. Bronze plaques were awarded to governors and mayors of the winning states and cities at the Hotel Mayflower, Washington, D. C., April 21.

Midwest Safety Conference.—The nineteenth annual Midwest Safety Conference will be held at the Sherman Hotel, Chicago, May 6-8. Among the many speakers on the program are:

William H. Lehmberg, American Optical Company, Stockbridge, Mass., Eye Defense Against Attack by Rays.

A. K. Gaetjens, Nela Park Engineering Department, General Electric Company, Cleveland, What Proper Illumination Means to Your Health and Safety.

Dr. Cleveland J. White, Chicago, Occupational Dermatitis as It Occurs in Industry Today.

Major George D. Rogers, safety officer, Office of the Chief of Ordnance, War Department, Washington, D. C., Controlling Health Hazards in Explosives—Operating and Ammunition-Loading Plants.

V. A. Zimmer, director, Division of Labor Standards, U. S. Department of Labor, Washington, will give the principal address at the luncheon Wednesday on "The National Defense Program." A symposium on first aid in national defense will follow.

Impostor Obtains License.—The Indiana State Board of Medical Registration and Examination reports that through misrepresentation and error a license to practice medicine was issued to one Howard Glaesner by the clerk of Dubois County in October 1940. The license was subsequently presented to the clerk of Daviess County as authority for a license in that county. All county clerks and all state licensing boards and agencies have been notified that these licenses have been canceled by the Indiana board. So far as can be determined, Glaesner is not in Indiana, the board reported on April 3. A letter from the California State Board of Medical Examiners to the Indiana board stated that Glaesner had defaulted on a car in Los Angeles and that the car had been recovered there on Dec. 5, 1940. Any information concerning Glaesner or the Indiana licenses used by him should be forwarded to the Indiana State Board of Medical Registration and Examination, Indianapolis.

Donates Bowling Trophy.—Mead Johnson & Co., Evansville, Ind., has offered a perpetual trophy to the American Medical Bowling Association, the organization of which is now under way. According to the *Bulletin* of the Los Angeles County Medical Association, the first annual tournament will be held in Cleveland during the annual session of the American Medical Association. Teams of physicians will compete for the trophy, which will be retained one year by the championship team. In California, where the idea to form the national group originated, a state tournament will be held at the annual meeting of the California Medical Association in Del Monte May 5-8, the winning team to bowl in the national tournament. A tournament was planned for the Arizona State Medical Association at its meeting, April 16-19. Many county medical societies throughout the country have established leagues. Information concerning the American Medical Bowling Association may be obtained from Dr. Lewis Wine Bremerman, 1709 West Eighth Street, Los Angeles.

Subspecialties of Internal Medicine.—The American Board of Internal Medicine has worked out a plan for certification of physicians in the following subspecialties of internal medicine: allergy, cardiovascular diseases, gastroenterology and tuberculosis. The plan was approved by the Council on Medical Education and Hospitals of the American Medical Association and the Advisory Board for Medical Specialties at their recent meetings in Chicago. Accordingly, all candidates must pass the same written examination in internal medicine. Those successful in the written examination are eligible for the practical examination given each year before the meetings of the American Medical Association and the American College of Physicians. The examination on the long case will be given by a team led by a member of the American Board of Internal Medicine. The examination on the short case will be given by a team composed of a member of the board and an examiner in the subspecialty. After this portion of the examination is finished, the candidate will be turned over to the examiner in the subspecialty for examination in special techniques.

History of Roentgen Rays.—A four reel sound motion picture telling the history of roentgen rays and explaining their applications in laymen's language has been produced by the General Electric X-Ray Corporation for exhibition before lay audiences. The film will be lent free of charge except for transportation costs, to physicians who are asked to appear before luncheon clubs, parent-teacher associations, study groups and technical societies. Through the story of a medical student who goes to a radiologist for a roentgen examination, the film shows the discovery of the rays by Roentgen, their early use by pioneering physicians, illustrations of the medical, dental, veterinary and industrial applications. It includes an explanation of the physics of x-ray production by William D. Coolidge, Ph.D., director of research of the General Electric Company, Schenectady, N. Y., and inventor of the hot cathode x-ray tube that bears his name. The picture was professionally produced, partly in Hollywood and partly in hospitals and industrial plants in a number of cities. A leaflet describing the picture and including instructions for reserving it for exhibition is available from the General Electric X-Ray Corporation, Chicago.

Gastroenterological Association.—The sixth annual convention of the National Gastroenterological Association will be held at the Commodore Hotel, New York, May 13-16, under the presidency of Dr. Anthony Bassler, New York. Included among the speakers will be:

Dr. Harry E. Bacon, Philadelphia, Motion Picture Demonstration of Hemorrhoidectomy.

Drs. Frank J. Gregg and Roy R. Snowden, Pittsburgh, Diagnosis of Functional Dyspepsia.

Dr. Thomas G. Simonton, Pittsburgh, Management and Treatment of Cases of Cholera Morbus and Acute Ptomain Poisoning.

Drs. George M. Curtis and Frank E. Hamilton, Columbus, Ohio, Effects of Duodenal Ulcer with Obstruction on the Motor Activity of Human Stomach.

Dr. Richard H. Sweet, Boston, Transthoracic Gastrectomy.

There will be round table conferences on "Pathogenesis of Cholelithiasis," "Criteria in the Differential Diagnosis of Ulcers and Carcinoma of the Stomach" and "A Consideration of the New Forms of Medical Therapy of Ulcers of the Stomach and Duodenum." Friday has been designated "Clinical Day," with sessions at the various hospitals in Manhattan, Bronx and Brooklyn. The general program also includes an address by Dr. Frank H. Lahey, Boston, President-Elect of the American Medical Association.

CANADA

Epidemics in Halifax.—Epidemics of diphtheria, meningitis and scarlet fever ravaged the city of Halifax, N. S., during the winter, it was recently announced when investigators from Harvard Medical School, Boston, returned from several weeks spent in helping fight the diseases. A report has been prepared for the U. S. Public Health Service. Newspapers pointed out that the city's population of 70,000 had been doubled under wartime necessities, and that one out of three of its physicians had been called into army or navy service. It is believed that the diseases were introduced in part by ships' crews. At least one strain of scarlet fever organism previously unknown in Canada was identified. Diphtheria was widespread. Members of the Harvard team included J. Howard Mueller, Ph.D., associate professor of immunology and bacteriology at the medical school, who was in charge; Drs. Leroy D. Fothergill, Silas Arnold Houghton assistant professor of bacteriology and immunology and associate in pediatrics; Emanuel B. Schoenbach, instructor in bacteriology; John H. Dingle, assistant in bacteriology and in medicine; Stafford M. Wheeler, instructor in preventive medicine and epidemiology, and Lewis Thomas, research fellow in neurology at Thorndike Memorial Laboratory. In addition, Misses Agnes Gallegan, Pauline Miller and Jane Hinton, Mrs. Anna Kling and Mrs. Thomas were technical and secretarial assistants.

Foreign Letters

LONDON

(From Our Regular Correspondent)

Feb. 22, 1941.

The Bombing of a Great London Hospital

The bombing of two of the great London hospitals has been described in previous letters. The bombing of a third, St. Bartholomew's, the oldest and the second largest of the London hospitals, can be added.

On the night of December 29 thousands of incendiary bombs were dropped on the small part of London known as "the city" (in which the hospital is situated). The hospital was temporarily deprived of its supply of gas and of one circuit of electricity, which worked the lifts. At 10 p. m. the police stated that the fire department had difficulty in checking the flames and that if they got nearer to the hospital complete evacuation might be necessary at short notice. As any evacuation would take considerable time and as the lifts were not working, it was decided to evacuate immediately 100 of the 225 patients that night. The hospital has six hundred and ninety-two beds; the small number of patients was due to war evacuation. The patients were carried on stretchers down the stairs and loaded into busses by the porters and volunteers from among the students and were taken to a hospital outside London. All this was done smoothly and efficiently under trying conditions.

On another occasion the hospital had to work at full pressure to treat a large number of casualties from an air raid. The majority required surgical treatment, and it was necessary to acquire the additional services of a mobile team. In spite of this assistance the operating rooms were in use all night and much of next day. The damage caused by incendiary bombs has emphasized the need for adequate protection against fire. Every roof is fitted with fire fighting appliances and six regular fire squads are on duty each night. In addition, much help has been given by the students on all occasions when incendiary bombs have been dropped on the hospital. On one night a dozen were dealt with in the space of a few minutes.

Physicians' Work in Air Raids

It has been said that bombing from the air of towns and cities has put civilians in the front line of the war. This applies especially to the work of treating the injured. Our hospitals have suffered much, and doctors and nurses have been killed and injured while attending to those brought in from air raids in progress. The same has occurred in their first aid work outside, and many heroic deeds have been recorded. The most recent, for which the George medal (recently instituted for civilian acts of bravery) has been awarded, is the following:

A bomb explosion collapsed a tunnel in which some people were trapped in northern London. The health officer, Dr. Malcolm Manson, worked for nearly three hours to release them, giving medical aid all the time and keeping effective control. Throughout this time he was in grave personal danger from frequent falls of clay. At one time he was partially buried in a large fall. He had to be dragged out feet foremost, but after a few minutes rest he carried on. His disregard of personal safety saved several lives, although he sustained serious injuries during the rescue operations. This incident is typical of many courageous acts performed by physicians in the attacks from the air on the civilian population.

British Ambulances for Greece

The British Volunteer Ambulance Corps has presented to Greece eighteen ambulances for service with the Greek army. The ambulances are constructed to a special design of double

steel lined bodies with a flat steel roof under the corrugated steel one. The stretcher equipment is of the most modern type with fittings for 4 recumbent patients, easily convertible into accommodation for 14 or 16 sitting patients. Each ambulance is provided with four stretchers of standard army design.

The British Volunteer Ambulance Corps at present has eighty-five ambulances working with the British army, including two manned sections, one with male and the other with female ambulance drivers. The corps has received a gift of seventy-five ambulances from America, fifty-six of which are now in service.

Milk Restrictions

The continuance of the war involves further food restrictions. In the House of Lords the minister of food, Lord Woolton, dealt with that most important food—milk—the distribution of which is already controlled. In spite of all the conditions of aerial bombardment the country had every morning been supplied with milk without interruption and almost without delay. The average consumption of milk was 1 gallon a week per family. We must expect difficulty in maintaining milk production at the present level. The shortage of imported foodstuffs was likely to increase, and other difficulties arising from the war would tend to diminish the milk supply. Under the national milk scheme, introduced last July, 10,000,000 gallons of milk was distributed to 2,800,000 people. About one third received the milk free and the others paid the reduced price of 4 cents a pint. An unrestricted supply of milk to nursing and expectant mothers and young children would be given priority in taking care of 5,500,000 people. Arrangements were being made to maintain supplies to hospitals and to sick persons under certain prescribed conditions. Having done this, the minister must conserve the remainder of our milk supplies in order that they might be available for the greatest need of the nation.

British Civil Defense

Surgeon General Parran, of the United States Public Health Service, is in England to study civil defense in relation to public health, the reactions of the public to air bombardment and the linking up of civil defense with the normal public health services. He has been deeply impressed with the organization and the manner in which the public is cooperating with the authorities. He and Lord Horder and Mr. Fred Horner, of the American Transport Service, were the guests at a luncheon given by the mayor of Kensington. Surgeon General Parran said that while the whole business of military science had engaged the best minds in every country there had been developing in these islands a comparable science of military defense, utilizing volunteers, men and women, improvising from month to month without any background, to meet terrible conditions. He referred to the remarkable development of the science of aviation and to the rapid development of the machine, but he believed that biologic science would catch up with the mechanical. Before he left America he talked with the President of the United States on the problems of civil defense, who referred particularly to the women's part and to the unpaid volunteers in cooperating with the official agencies and the professions concerned and asked him to bring back news as to the ways and means in which they were working here.

Marriages

CHARLES EMERSON TRIBBLE, DeLand, Fla., to Miss Ann Bernice Jennings of Green Cove Springs, February 9.

LEO J. ESCHELBACHER, Mount Vernon, Ill., to Miss Inge Wachelheim of Chicago in St. Louis, February 4.

ROBERT DANIEL WARNKE, Milford, Neb., to Miss Irene Roberta Langdon of Detroit, February 15.

Deaths

John Joseph MacPhee ☉ New York; University of Vermont College of Medicine, Burlington, 1890; in 1891 demonstrator of clinical microscopy, promoted to be lecturer in neurology in 1910, professor of neurology in 1911 and served in this capacity until 1926 when he became emeritus professor of neurology and consulting neurologist at the New York Post-Graduate Medical School; served during the World War; member of the Association for Research in Nervous and Mental Disease; visiting neurologist to St. Francis Hospital, Harlem Eye and Ear Hospital and the Bronx Eye and Ear Infirmary; consulting neurologist, St. John's Long Island City Hospital and the Misericordia Hospital; aged 80; died, February 18, of pneumonia.

Daniel E. S. Coleman, New York; New York Homeopathic Medical College and Hospital, New York, 1901; fellow of the American College of Physicians; instructor in materia medica, 1905-1906, instructor and clinical assistant to the chair of homeopathic philosophy, 1906-1907, instructor of materia medica and clinical assistant to the chair of homeopathic therapeutics, 1907-1908, instructor in materia medica, 1908-1909, lecturer in materia medica, 1909-1910, assistant professor of materia medica from 1910 to 1913 and professor of materia medica from 1913 to 1918 at his alma mater; aged 68; died, February 27, of myocarditis and acute nephritis following influenza.

George Francis Mills, Utica, N. Y.; University of Buffalo School of Medicine, 1899; member of the Medical Society of the State of New York; served during the World War; past president and secretary of the Madison County Medical Society; formerly coroner, health officer and school physician in Oneida; on the staff and formerly member of the board of directors of the Oneida (N. Y.) City Hospital; aged 66; on the staff of St. Elizabeth's Hospital, where he died, February 16, of heart disease.

Timothy Joseph O'Sullivan ☉ Portland, Maine; Boston University School of Medicine, 1914; member of the American Academy of Ophthalmology and Otolaryngology; fellow of the American College of Surgeons; served during the World War; otolaryngologist, Children's Hospital; associate otolaryngologist, Maine General Hospital; on the staff of the State Street Hospital; consultant, Webber Hospital, Biddeford, and Henrietta D. Goodall Hospital, Sanford; aged 54; died, February 16.

Heber K. Merrill, Logan, Utah; Northwestern University Medical School, Chicago, 1905; member of the Utah State Medical Association; president of the Utah Hospital Association; past president of the Cache County Medical Society; formerly member of the state board of health; medical director of the Cache Valley General Hospital; formerly bank president and member of the city board of education; aged 71; died, February 4, of coronary occlusion.

Edmund Levings Warren, St. Paul; Columbia University College of Physicians and Surgeons, New York, 1910; member of the Minnesota State Medical Association; member of the executive committee of the Children's Hospital and member of the staffs of St. Luke's, Miller, St. Joseph's and Gillette hospitals; aged 56; died, February 19, of chronic nephritis and essential hypertension.

Hubert Marvin Meredith ☉ Scottsville, Ky.; University of Tennessee Medical Department, Nashville, 1901; formerly secretary of the Allen County Medical Society; served during the World War; at one time member of the board of education and city council; aged 62; died, February 16, in St. Thomas Hospital, Nashville, of aortic aneurysm.

Fred Elwell Earel ☉ Santa Ana, Calif.; University of Illinois College of Medicine, Chicago, 1916; formerly mayor of Hoopston, Ill.; served during the World War; on the staff of the Orange County Hospital and St. Joseph Hospital, Orange, and the Fullerton (Calif.) Hospital; aged 49; died, February 11, of cerebral hemorrhage.

Henry John Louis Schroeder, Trenton, N. J.; Long Island College Hospital, Brooklyn, 1898; member of the Medical Society of New Jersey; on the staff of the New Jersey Sanatorium for Tuberculous Disease, Glen Gardner; aged 67; died, February 13, in the Kings County Hospital, Brooklyn, of arteriosclerosis and bronchopneumonia.

Herbert Rankin Struthers, Grayslake, Ill.; College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1901; member of the Illinois State Medi-

cal Society; served during the World War; aged 68; died, February 2, in the Veterans Administration Facility, Hines, of hypertrophy of the prostate.

Jesse Garfield Maxon ☉ Harvard, Ill.; Hahnemann Medical College and Hospital, Chicago, 1910; past president and secretary of the McHenry County Medical Society; for many years mayor; served during the World War; formerly president of the McHenry County Tuberculosis Association; aged 60; died, February 7.

George Balthasar Spath ☉ Hoboken, N. J.; Medico-Chirurgical College of Philadelphia, 1900; medical examiner of a draft board; a trustee of the adult education bureau; on the staff of the Fairmount Hospital and Christ Hospital, Jersey City, and St. Mary's Hospital; aged 66; died, February 26, of myocarditis.

Thomas Bernard Latane, South Richmond, Va.; University of the South Medical Department, Sewanee, Tenn., 1903; member of the Medical Society of Virginia; aged 68; died, February 18, in the Johnston-Willis Hospital, Richmond, of hypertension and hemiplegia.

Edward Anderson Holmes, Marion, Va.; University of Virginia Department of Medicine, Charlottesville, 1897; member of the Medical Society of Virginia; for many years county coroner; served during the World War; aged 67; died, February 4, of heart disease.

Claude Leonard Pridgen, Gainesville, Fla.; Jefferson Medical College of Philadelphia, 1901; served during the World War; member of the executive staff of the state board of health of North Carolina, 1913-1914; aged 63; died, February 6, of coronary thrombosis.

Charles E. Spitler, Saratoga, Ind.; St. Louis College of Physicians and Surgeons, 1891; member of the Indiana State Medical Association; for many years health officer and bank president; aged 77; died, February 3, of heart disease and arteriosclerosis.

Mark Dickens Hoyt, Glasgow, Mont.; University of Pennsylvania Department of Medicine, Philadelphia, 1891; member of the Medical Association of Montana; mayor; county health officer; aged 72; died, February 12, of carcinoma of the esophagus.

Reginald C. McDonald Millar ☉ Foristell, Mo.; Barnes Medical College, St. Louis, 1904; formerly county health officer; served during the World War; aged 63; died, February 19, in the Central Hospital, St. Louis, of bronchopneumonia and influenza.

Willis B. Huron, Tipton, Ind.; Hahnemann Medical College and Hospital, Chicago, 1886; past president and secretary of the Tipton County Medical Society; formerly health officer; aged 82; died, February 13, of arteriosclerosis and coronary disease.

Lloyd Albert Heikes ☉ Lemoyne, Pa.; Medico-Chirurgical College of Philadelphia, 1910; was president of the board of health of Lemoyne; aged 58; died, February 3, in the Harrisburg (Pa.) Polyclinic Hospital of influenza and pneumonia.

Perley Lewis Sanborn, Marblehead, Mass.; Bellevue Hospital Medical College, New York, 1877; member of the Massachusetts Medical Society; on the staff of the Mary Alley Hospital; aged 89; died, February 3, of acute enteritis.

Albert A. Wikoff, Portsmouth, Ohio; Starling Medical College, Columbus, 1898; member of the Ohio State Medical Association; on the staff of the Portsmouth General Hospital; aged 71; died, January 25, of carcinoma of the rectum.

John Hammel Nichols ☉ Mansfield, Ohio; Rush Medical College, Chicago, 1896; fellow of the American College of Surgeons; on the staff of the Mansfield General Hospital; aged 67; died, February 10, of coronary thrombosis.

Irving Medbury Addleman ☉ Wausau, Wis.; Milwaukee Medical College, 1906; past president of the Marathon County Medical Society; aged 71; on the staff of St. Mary's Hospital; died, February 25, of coronary heart disease.

William Henry Donovan Jr., Iowa City; State University of Iowa College of Medicine, Iowa City, 1936; aged 25; died, February 18, in a hotel at Beaumont, Texas, of heart disease following an undiagnosed fever.

Samuel Lawson Reveley, San Antonio, Texas; University of Arkansas School of Medicine, Little Rock, 1915; member of the State Medical Association of Texas; aged 61; died, February 1, of cerebral hemorrhage.

William E. Johnson ☉ Warrensburg, Mo.; Barnes Medical College, St. Louis, 1896; past president of the Johnson County Medical Society; aged 65; died, February 3, of cerebral hemorrhage and arteriosclerosis.

Archie Lowe McElroy, Fort Worth, Texas; Fort Worth School of Medicine, Medical Department of Fort Worth University, 1909; aged 56; died, February 1, in All Saints Hospital of pulmonary tuberculosis.

Thomas Dawson McKnight, Brundidge, Ala.; Birmingham Medical College, 1912; member of the Medical Association of the State of Alabama; aged 58; died, February 5, of an accidental gunshot wound.

William Emory Stephens, Barnesville, Ohio; Medical College of Ohio, Cincinnati, 1903; aged 65; died, February 13, in St. Francis Hospital, Cambridge, of cerebral hemorrhage and diabetes mellitus.

John Thomas McCullough, Nipawin, Sask., Canada; McGill University Faculty of Medicine, Montreal, Que., 1919; served during the World War; aged 54; died, January 8, of accidental poisoning.

Merion E. Kemerer, Danielsville, Pa.; College of Physicians and Surgeons, Baltimore, 1897; aged 66; died, February 11, in the Haff Hospital, Northampton, of hypertrophic cirrhosis of the liver.

Allan Edward Schriver, Brewer, Maine; Medical School of Maine, Portland, 1896; member of the Maine Medical Association; formerly health officer; aged 72; died, January 24, of cardiac embolism.

Angus M. Frew, Hudson, Ohio; Hospital College of Medicine, Louisville, Ky., 1898; aged 67; died, February 12, in Akron of coronary thrombosis following an operation for intestinal obstruction.

Oscar S. Neff, Flagler, Colo.; Hahnemann Medical College and Hospital, Chicago, 1895; member of the Colorado State Medical Society; aged 73; died, January 28, of carcinoma of the prostate.

Clark Stetson Bogart, Kane, Pa.; University of Maryland School of Medicine, Baltimore, 1914; served during the World War; aged 49; died, February 16, of encephalitis and coronary occlusion.

George Henry Gillette, New York; Harvard Medical School, Boston, 1915; member of the Medical Society of the State of New York; aged 55; died, February 21, of coronary sclerosis.

Abner Richard Marcotte, Selden, Kan.; Kansas Medical College, Medical Department of Washburn College, Topeka, 1902; aged 61; died, February 12, in Omaha, of carcinoma of the liver.

Foster Fitch Eaton, Truro, N. S., Canada; University of the City of New York Medical Department, New York, 1889; aged 77; died, January 17, of coronary thrombosis and diabetes mellitus.

John Russell Fridge, Baton Rouge, La.; Louisville (Ky.) Medical College, 1889; aged 78; died, February 18, in Our Lady of the Lake Sanitarium of acute dilatation of the heart.

Linwood Major Kelley, Manchester, Vt.; University of Vermont College of Medicine, Burlington, 1904; served during the World War; aged 64; died, February 20, of heart disease.

Rosaire Rolland, Montreal, Que., Canada; University of Montreal Faculty of Medicine, Montreal, 1922; chief medical officer of the port of Montreal; aged 48; died, January 24.

Frank A. Duvally, Fall River, Mass.; College of Physicians and Surgeons, Baltimore, 1910; aged 56; died, February 4, in the Truesdale Hospital of carcinoma of the esophagus.

John B. Walton, Martin, S. D.; Bennett College of Eclectic Medicine and Surgery, Chicago, 1907; aged 58; died, January 21, in Rochester, Minn., of acute ulcerative endocarditis.

Eugene H. Judkins, Melrose, Mass.; Baltimore Medical College, 1892; aged 78; died, February 1, in the Worcester (Mass.) State Hospital of arteriosclerotic heart disease.

John Henry Weil, Philadelphia; Maryland Medical College, Baltimore, 1905; Hahnemann Medical College and Hospital of Philadelphia, 1906; aged 76; died, January 11.

William Henry Gooch, Elmer, Mo.; Barnes Medical College, St. Louis, 1898; county coroner; aged 69; died, February 1, in a hospital at Kirksville of coronary sclerosis.

John Samuel Bishop, Baltimore; University of Pennsylvania Department of Medicine, Philadelphia, 1895; aged 68; died, February 26, of bronchogenic carcinoma.

Isaac Beeson Hamilton, San Diego, Calif.; University of Pennsylvania Department of Medicine, Philadelphia, 1883; aged 82; died, February 4, of coronary thrombosis.

William Hodges, Tyler, Texas (licensed in Texas, under the Act of 1907); aged 73; died, February 4, of hypostatic pneumonia following fracture of the femur.

George Everett Sleeper, Hartford, Conn.; Dartmouth Medical School, Hanover, N. H., 1896; aged 70; died, January 13, of carcinoma of the anus and rectum.

John Dennis Herron, Canton, Ohio; Western Reserve University Medical Department, Cleveland, 1887; aged 80; died, February 3, of cerebral hemorrhage.

Clarence Martin O'Hara, Beaver Dam, Wis.; University of Illinois College of Medicine, Chicago, 1925; aged 45; died, February 5, of coronary thrombosis.

Gomer E. Jones, Oak Hill, Ohio; Miami Medical College, Cincinnati, 1896; past president of the Jackson County Medical Society; aged 74; died in February.

Edward James Pendergast, Jersey City, N. J.; Bellevue Hospital Medical College, New York, 1896; aged 67; died, February 8, of chronic myocarditis.

James Madison Britton, El Paso, Texas; University of Nashville (Tenn.) Medical Department, 1899; aged 74; died, February 9, of diabetes mellitus.

Ruth Alexander, Honolulu, Hawaii; Woman's Medical College of Pennsylvania, Philadelphia, 1909; aged 52; died, January 18, of mitral stenosis.

Ada Maude Chevallier, Gallup, N. M.; American Medical College, St. Louis, 1891; aged 80; died, February 20, in Las Vegas of gangrene of the leg.

George E. Wheeler, Villa Park, Ill.; Reliance Medical College, Chicago, 1909; also a dentist; aged 72; died, January 29, in Sullivan of pneumonia.

Charles Holmes Kraner, Pickerington, Ohio; Starling Medical College, Columbus, 1905; aged 64; died, February 6, of carcinoma of the prostate.

Charles W. McCole, New Market, Iowa; College of Physicians and Surgeons, Keokuk, Iowa, 1892; aged 75; died, February 4, of nephritis.

Harry Dana Burchard, Falls City, Neb.; John A. Creighton Medical College, Omaha, 1908; aged 58; died, January 13, of cerebral hemorrhage.

William Edwin Julius Kirk, New York; Long Island College Hospital, Brooklyn, 1921; aged 64; died, February 18, of cerebral hemorrhage.

John Herbert Riley, Detroit; Detroit College of Medicine, 1910; aged 57; died, February 13, in the Providence Hospital of bronchopneumonia.

Peyton Matthew Price, Vandervoort, Ark. (licensed in Arkansas in 1906); aged 57; died, February 24, of heart disease and pneumonia.

Lazar Sasover, New York; Universitatea din Bucuresti Facultatea de Medicina, Rumania, 1905; aged 65; died, January 19, of heart disease.

Harry Elwood Breese, San Diego, Calif.; Kansas City (Mo.) Medical College, 1902; aged 69; died, January 1, of pulmonary edema.

L. W. Smith, South Boston, Va.; Leonard Medical School, Raleigh, 1902; aged 62; died, January 1, of cardiorenal disease and hypertension.

Edward Leo A. Brown, Dayton, Ohio; Medical College of Ohio, Cincinnati, 1897; aged 70; died, February 20, of cerebral sclerosis.

Charles Tupper Weeks, Tidnish, N. S., Canada; Baltimore University School of Medicine, 1885; aged 80; died, January 10.

Charles H. McDowell, Philadelphia; Hahnemann Medical College and Hospital of Philadelphia, 1887; aged 75; died, January 9.

William Hartman Heinz, Toledo, Ohio; Cleveland Medical College, 1877; aged 83; died, February 11, of coronary embolism.

John Davis Kales, Chicago; Harvard Medical School, Boston, 1887; aged 76; died, February 28, of carcinoma of the pancreas.

Benjamin E. Pearce, Atlanta, Ga.; Atlanta Medical College, 1895; aged 65; died, February 11, of coronary thrombosis.

James E. Boden, Milwaukee; Milwaukee Medical College, 1901; aged 67; died, February 23, of cerebral hemorrhage.

Elmer Ellsworth Reichard, Averill Park, N. Y.; Albany Medical College, 1892; aged 74; died, February 18.

Bureau of Investigation

THE MacLEVY "SLENDERIZING" RACKET

Recently the editor of a scientific journal for the public was approached by one Paula Gould, self-styled "publicity director" for the "MacLevy Slenderizing Equipment and Salons." The "publicity director" stated:

"With ten slenderizing salons in the metropolitan area and more than two hundred throughout the country, Monty MacLevy is definitely the greatest figure contouring expert in the country. . . . the MacLevy System has discarded entirely the old fashioned 'gym' methods of reducing by strenuous exercise and uses exclusively in all the salons mechanical equipment which brings an entirely new principle to figure conditioning, employing mechanical energy to break down fatty deposits and mold shapely contours while the user remains relaxed."

She continued:

"We had a most interesting three page layout of the slenderizing machines and equipment in *Life*, November 4th issue."

The editor asks THE JOURNAL:

"Is my previous understanding [correct] that, unless one at the same time that he caused his body thus to be vibrated and rolled by outside machinery, took added exercise, or ate less, or ate a special diet of the 'slow poison' reducing variety, or used some combination of these methods, the effects of being vibrated were exactly nil; is this supposition of mine perhaps too sweeping?"

"If vibration alone could bring about reduction, I should think the street workmen who run pneumatic picks all day, and years on end, would be walking skeletons, yet I see some pretty well rounded men doing this work."

The routine procedure in this particular type of charlatry is to exhibit pictures of some beautiful young actress or model and to imply that she obtained her voluptuous contours by the use of the device. The pictures in *Life*, in which "pretty Model Pat Ogden" is "placidly letting herself be electrically rolled in the Slendro Massager," are no exception to the rule.

Life conducted a rather typical piece of pseudoscientific research. Its article stated: "Along with Pat, *Life* sent its fattest researcher to play guinea pig for fat *Life* readers. She found the machines pleasant and generally painless. The Slendro Massager made her feel 'like a piece of dough being rolled,' but like a biscuit she felt no pain."

Continuing, *Life* reported that the "fattest researcher," who apparently investigated all the gadgets of Monty, "the greatest figure contouring expert," found that "The Roaler Massager makes you think that at last you're going to find out what it's like to ride a horse. Instead, the friction on your seat soon makes you think you've ridden through a whole rodeo. The Back Ring Roller makes you conscious of looking like a Salem witch in the stocks."

"The other machines that roll bulging stomachs, thighs, calves and ankles are also painless enough to allow reading, knitting, lunching or dozing. They made *Life's* reporter feel 'like a slowly deflating balloon.'"

Life gave a final comment from this remarkable investigation of its "fattest researcher": "As you look around the torture room and see the fat ladies standing in rows, you're amazed at their complacent contentment. They are all getting thin without an effort. They all still look as if they were munching chocolates."

Life's illustrations, with one exception, are of the comely Pat and not of its adipose investigator. In one picture Pat stands pensively in a machine with long arms which apparently move broad metallic springs over the front and back of her already shapely contour. In three other pictures she sits or lies on the "Roaler Massager," which is apparently a rolling barrel on a low framework. When she sits on it, it is said that "the machine works on thigh." When she lies across it in the prone position, it is said that "abdomen massage is achieved" and that the "Roaler Massager is popular because women can operate it by themselves, concentrate on any one spot."

In another picture the beautiful Miss Ogden sits in the "Back Ring Roller," which, it is said, is "designed to work on fatty parts of back from waist up." This elaborate gadget apparently moves a springlike roller up and down the back. Still another device is shown in the "Wooden Barrel Massager with rollers like clothes wringers." The subject stands between two sets of multiple rollers which rest against the buttocks and thighs. It

is said that this device "is designed for action on the hips and buttocks. When in work, rollers are closed in around body and spin."

Finally, the "Modified Slendro Massager" and the "Leg Roller" are illustrated. The leg roller apparently runs springlike rollers up and down the front and back of the thigh and also the calf. Miss Ogden, the model, sits complacently knitting while receiving this particular procedure, which, it is said, is employed "for those who find the slight effort of standing overtaxing."

It is interesting to note that although the publicity director for the MacLevy system stated that the old fashioned "gym" methods had been entirely discarded, the towel on which Miss Ogden is kneeling is marked "MacLevy Gym."

It is even more interesting to note that Monty MacLevy is president of the MacLevy Slenderizing Equipment & System, Inc., the Slendrow Preparations, Inc., Rollo Equipment, Inc., and the MacLevy Health Club, Inc., all at 122 East 42d Street, New York. He is also president of the MacLevy Gym & Bath Club, Inc., the MacLevy Athletic Club, located in New York and Brooklyn, respectively; and secretary of the MacLevy Slenderizing Salons of Philadelphia, Pa., East Orange, N. J., and Boston, Mass., and holds the same position in regard to the Westchester Slenderizing Salon, Inc., the Contour Slenderizing Salon, Inc., of Washington, D. C., and is president of the Flatbush Slenderizing Salon, Inc. He was formerly assistant general manager of the Madison Square Garden Swimming Pool and Gymnasium, and is a son of the late Maximilian MacLevy who for many years operated a gymnasium in New York City at the present address of the MacLevy Slenderizing Equipment & System, Inc.

This corporation is exclusive distributor for the "Rollo Massage Chair" and other slenderizing equipment manufactured by Rollo Equipment, Inc., and this organization issues franchises to operating companies for the right to use the name "MacLevy System." It is understood that the complete slenderizing equipment in one of these establishments has a retail sales value of about \$1,400. It has been intimated that such franchises require the use of cosmetics, sweat creams, body oils, etc., purchased from this corporation.

All this elaborate business of supplying the machinery and giving the treatments which supposedly rub away fatty tissue from regions in which it is not wanted is based on the general misconception concerning the action of massage on adipose tissue. Careful clinical observation by skilled physicians does not support this conception. Even the heaviest massage will not remove deposits of fat in various regions of the body. Rosenthal,¹ when he investigated this problem experimentally in a scientific manner, found that even the most vigorous massage of the abdominal wall of animals did not produce any destructive effect on the adipose tissue. After such heavy massage, histologic sections of the adipose tissue did not show any changes in the fat, although the pressure had been sufficiently severe to produce multiple hemorrhages.

Just as there has been much misunderstanding concerning the value of massage for obese persons, so is there considerable misconception concerning the usefulness of exercise for such persons. There is much truth in the facetious statement that the best exercise for the obese person to employ is "a rapid rotation of the head from right to left when the mashed potatoes and gravy are passed." Undoubtedly the only logical way of diminishing the amount of adipose tissue in the human body is to decrease the caloric intake or to increase the caloric output. There is no "easy way" to reduce fat. And there is no scientific evidence whatever to indicate that adipose tissue can be made to disappear by massage or by any other means from one region of the body without its disappearing in comparable amounts from other regions.

Of course, there will always be charlatans who will play on the common feminine weakness of desiring to obtain "shapely contours" without curbing appetite and self indulgence. The "MacLevy System" is a typical, rather flagrant example of this type of quackery. *Life's* editors can hardly be so gullible as to be convinced by this type of chicanery.

1. Rosenthal, Carl: Die Massage und ihre wissenschaftliche Begründung, Berlin, 1910.

Medical Examinations and Licensure

COMING EXAMINATIONS

NATIONAL BOARD OF MEDICAL EXAMINERS

EXAMINING BOARDS IN SPECIALTIES

Examinations of the National Board of Medical Examiners and Examining Boards in Specialties were published in *THE JOURNAL*, April 19, page 1868.

BOARDS OF MEDICAL EXAMINERS

ALABAMA: Montgomery, June 17-19. Sec., Dr. J. N. Baker, 519 Dexter Ave., Montgomery.

ARKANSAS: * *Medical*. Little Rock, June 5-6. Sec., Dr. D. L. Owens, Harrison. *Eclectic*. Little Rock, June 5-6. Sec., Dr. Clarence H. Young, 1415 Main St., Little Rock.

CALIFORNIA: *Oral examination* (required when reciprocity application is based on a state certificate or license issued ten or more years before filing application in California), Los Angeles, July 14. *Written*. San Francisco, June 30-July 3. Sec., Dr. Charles B. Pinkham, 1020 N St., Samento.

DELAWARE: July 8-10. Sec., Medical Council of Delaware, Dr. Joseph S. McDaniel, 229 S. State St., Dover.

DISTRICT OF COLUMBIA: * Washington, May 12-13. Sec., Commission on Licensure, Dr. George C. Ruhland, 203 District Bldg., Washington.

FLORIDA: * Jacksonville, June 23-24. Sec., Dr. William M. Rowlett, Box 786, Tampa.

GEORGIA: Atlanta, June. Sec., State Examining Boards, Mr. R. C. Coleman, 111 State Capitol, Atlanta.

HAWAII: Honolulu, July 14-17. Sec., Dr. James A. Morgan, 48 Young Bldg., Honolulu.

INDIANA: Indianapolis, June 17-19. Sec., Board of Medical Registration and Examination, Dr. J. W. Bowers, Citizens Trust Bldg., Fort Wayne.

IOWA: * Iowa City, June 3-5. Dir., Division of Licensure and Registration, State Department of Health, Mr. H. W. Greffe, Capitol Bldg., Des Moines.

KANSAS: Kansas City, June 17-18. Sec., Board of Medical Registration and Examination, Dr. J. F. Hassig, 905 N. 7th St., Kansas City.

KENTUCKY: Louisville, June 5-7. Sec., State Board of Health, Dr. A. T. McCormack, 620 S. Third St., Louisville.

MARYLAND: *Medical*. Baltimore, June 17-20. Sec., Dr. John T. O'Mara, 1215 Cathedral St., Baltimore. *Homeopathic*. Baltimore, June 17-18. Sec., Dr. John A. Evans, 612 W. 40th St., Baltimore.

MICHIGAN: * Ann Arbor and Detroit, June 11-13. Sec., Board of Registration in Medicine, Dr. J. Earl McIntyre, 202-4 Hollister Bldg., Lansing.

MISSISSIPPI: Jackson, June. Asst. Sec., State Board of Health, Dr. R. N. Whitfield, Jackson.

MISSOURI: St. Louis, May 29-31. Sec., State Board of Health, Dr. Harry F. Parker, State Capitol Bldg., Jefferson City.

NEBRASKA: * Omaha, June 12. *All applications must be on file not later than May 29*. Dir., Mrs. Jeanette Crawford, 1009 State Capitol Bldg., Lincoln.

NEVADA: Carson City, May 5. Sec., Dr. Fred M. Anderson, 215 N. Carson St., Carson City.

NEW JERSEY: Trenton, June 17-18. Sec., Dr. Earl S. Hallinger, 28 W. State St., Trenton.

NEW YORK: Albany, Buffalo, New York and Syracuse, June 23-26. Chief, Bureau of Professional Examinations, 315 Education Bldg., Albany.

NORTH CAROLINA: Raleigh, June 16-20. Sec., Dr. W. D. James, Hamlet.

NORTH DAKOTA: Grand Forks, July 1-4. Sec., Dr. G. M. Williamson, 4½ S. Third St., Grand Forks.

OHIO: *Practical*. June 11 and 14. *Written*. June 12-13. Sec., Dr. H. M. Platter, 21 W. Broad St., Columbus.

OKLAHOMA: * Oklahoma City, June 11-12. Sec., Dr. James D. Osborn Jr., Frederick.

PENNSYLVANIA: Philadelphia and Pittsburgh, July. Act. Sec., Bureau of Professional Licensing, Department of Public Instruction, Mrs. Marguerite G. Steiner, 358 Education Bldg., Harrisburg.

SOUTH CAROLINA: Columbia, June 23-25. Sec., Dr. A. Earle Boozer, 505 Saluda Ave., Columbia.

SOUTH DAKOTA: * Pierre, July 15-16. Dir., Medical Licensure, Dr. J. F. D. Cook, State Board of Health, Pierre.

VERMONT: Burlington, June 17-19. Sec., Dr. F. J. Lawliss, Richford.

VIRGINIA: Richmond, June 17-20. Sec., Dr. J. W. Preston, 30½ Franklin Road, Roanoke.

WISCONSIN: * Milwaukee, June 24-27. Sec., Dr. H. W. Shutter, 425 E. Wisconsin Ave., Milwaukee.

WYOMING: Cheyenne, June 2-3. Sec., Dr. M. C. Keith, Capitol Bldg., Cheyenne.

* Basic Science Certificate required.

BOARDS OF EXAMINERS IN THE BASIC SCIENCES

ARKANSAS: Little Rock, May 19. Sec., Mr. Louis E. Gebauer, 701 Main St., Little Rock.

CONNECTICUT: June 14. Address State Board of Healing Arts, 1945 Yale Station, New Haven.

FLORIDA: De Land, June 7. *Applications must be on file not later than May 24*. Sec., Prof. J. F. Conn, John B. Stetson University, De Land.

IOWA: Des Moines, July 8. Dir., Division of Licensure and Registration, State Department of Health, Mr. H. W. Greffe, Capitol Bldg., Des Moines.

NEBRASKA: Omaha, May 6-7. Dir., Mrs. Jeanette Crawford, 1009 State Capitol Bldg., Lincoln.

OKLAHOMA: Oklahoma City, May 22. Sec. of State, Hon. C. C. Childress, State Capitol, Oklahoma City.

OREGON: Corvallis, July 12. Sec., State Board of Higher Education, Mr. Charles D. Byrne, University of Oregon, Eugene.

SOUTH DAKOTA: June. Sec., Dr. G. M. Evans, Yankton.

Virginia December Report

Dr. J. W. Preston, secretary, Board of Medical Examiners of Virginia, reports the written examination for medical licensure held at Richmond, Dec. 4-6, 1940. An average of 75 per cent was required to pass. Fourteen candidates were examined, 13 of whom passed and 1 failed. The following schools were represented:

School	PASSED	Year Grad.	Per Cent
George Washington University School of Medicine	(1940)	83, 85, 85	
Georgetown University School of Medicine	(1939)		83
Howard Univ. College of Medicine	(1939)	80, 86, 89, (1940)	85
Creighton University School of Medicine	(1940)		85
Univ. of Pennsylvania School of Medicine	(1937)	80, (1939)	84
University of Toronto Faculty of Medicine	(1939)		84
McGill University Faculty of Medicine	(1934)		86

School	FAILED	Year Grad.	Number Failed
Université de Genève Faculté de Médecine	(1936)		1

Thirty-four physicians were licensed to practice medicine by reciprocity and 6 physicians so licensed by endorsement from September 9 through December 6. The following schools were represented:

School	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
George Washington University School of Medicine	(1929)		New York
Howard University College of Medicine	(1911)		New York
University of Georgia School of Medicine	(1937)		W. Virginia
Northwestern University Medical School	(1903)		Iowa
University of Illinois College of Medicine	(1935)		Dist. Colum.
Indiana University School of Medicine	(1927)		Indiana
State University of Iowa College of Medicine	(1939)		Iowa
University of Kansas School of Medicine	(1937)		Kansas
College of Physicians and Surgeons, Baltimore	(1914)		W. Virginia
Johns Hopkins Univ. School of Medicine (1932)	(1937, 2)		Maryland
University of Maryland School of Medicine and College of Physicians and Surgeons	(1936)		Maryland
Tufts College Medical School	(1911)		Maine
University of Minnesota Medical School	(1935)		Minnesota
Columbia Univ. College of Physicians and Surgeons	(1927)		Dist. Colum.
Long Island College Hospital	(1917)		New York
New York Univ. College of Med. (1935)			New York
Hahnemann Med. College and Hospital of Philadelphia (1939)			New Jersey
Jefferson Medical College of Philadelphia	(1925)		New Jersey
(1934) New York, (1936) N. Carolina, (1937) Delaware			
University of Pennsylvania School of Medicine	(1938)		N. Carolina
Medical College of the State of South Carolina	(1938)		S. Carolina
Meharry Medical College	(1939)		Tennessee
Univ. of Tennessee College of Med.	(1912), (1927), (1935)		Tennessee
Medical College of Virginia	(1915), (1933)		N. Carolina
Johann Wolfgang Goethe-Universität Medizinische Fakultät, Frankfurt-am-Main	(1931)		New York
Rheinische Friedrich-Wilhelms-Universität Medizinische Fakultät, Bonn	(1934)		New Jersey

School	LICENSED BY ENDORSEMENT	Year Grad.	Endorsement of
College of Medical Evangelists	(1940)		N. B. M. Ex.
George Washington University School of Medicine	(1938)		N. B. M. Ex.
Harvard Medical School	(1935)		N. B. M. Ex.
Duke University School of Medicine	(1937)		N. B. M. Ex.
Medical College of the State of South Carolina	(1916)		U. S. Navy
Medizinische Fakultät der Universität Wien	(1937)		N. B. M. Ex.

Wyoming October Report

Dr. M. C. Keith, secretary, Wyoming State Board of Medical Examiners, reports the written examination for medical licensure held at Cheyenne, Oct. 7-8, 1940. The examination covered 13 subjects and included 96 questions. An average of 75 per cent was required to pass. Ten candidates were examined, all of whom passed. Four physicians were licensed to practice medicine by endorsement. The following schools were represented:

School	PASSED	Year Grad.	Per Cent
The School of Medicine of the Division of the Biological Sciences	(1937)		82
University of Illinois College of Medicine	(1937)		86
State University of Iowa College of Medicine	(1938)		83
University of Kansas School of Medicine	(1934)		84
Wayne University College of Medicine	(1934)		82
University of Minnesota Medical School	(1935)		88
University of Nebraska College of Medicine (1937)	80, (1938)		75
Baylor University College of Medicine	(1939)		83
Osteopath *			82

School	LICENSED BY ENDORSEMENT	Year Grad.	Endorsement of
University of Louisville Medical Department	(1909)		N. Dakota
Creighton University School of Medicine			S. Dakota
University of Nebraska College of Medicine			Nebraska
University of Oregon Medical School	(1930)		B. M. Ex.

* Examined in surgery only.

Bureau of Legal Medicine and Legislation

MEDICOLEGAL ABSTRACTS

Optometry Practice Acts: Availability of Injunction to Restrain Unlawful Practice.—The New Hampshire Board of Registration in Optometry filed a petition, in which it was joined by five individual optometrists as intervenors, for an injunction to restrain the defendants, the Scott Jewelry Company and one Boisvert, from engaging unlawfully in the practice of optometry. The jewelry company was not licensed to practice optometry but it hired at a weekly salary Boisvert, a licensed optometrist, to conduct its optometric business. By advertising and otherwise it held itself out to the public as possessing the means for examining eyes, for measuring the powers of vision and for adapting lenses to aid vision, and it deceitfully held out that Boisvert was practicing on his own account. The defendants demurred to the petition and the case was transferred to the Supreme Court of New Hampshire without a ruling.

The question determinative of this appeal was whether or not an injunction was available, in a case of this nature, to either the Board of Registration in Optometry or the individual optometrists as intervenors. It was conceded that a court of equity will not interfere by injunction, on motion of a public official, to prevent the violation of a criminal statute when the violation does not constitute a public nuisance or where the criminal remedy at law is adequate. In the judgment of the court the illegal practice of optometry is not a public nuisance. The court, therefore, could not agree with the plaintiff board's contention that a court of equity has authority to restrain the illegal practice of licensed callings even though such illegal practice is punishable as a crime. Such authority has not been recognized in New Hampshire, and the scope of a court's equitable jurisdiction cannot be enlarged merely for the convenience of the state, except in accord with well settled principles. In the opinion of the court the state had an adequate remedy at law. The penalty prescribed by the optometry practice act for the illegal practice of optometry is a fine of from \$50 to \$200, which is not trifling. Assuming Boisvert's guilt, conviction for two or more violations of the act, with imposition of the fine for one charge and continuance of the other charges for sentence, would seem to be as effective as a perpetual injunction. If it could be conceived that similar action against the defendant corporation would not have a similar effect, a more summary common-law remedy is at the command of the state by quo warranto proceedings to oust the corporation from the exercise of powers ultra vires. Also, if Boisvert is guilty, as charged, of fraud in the practice of optometry, his wrong-doing can be effectually ended by revocation of his certificate by the plaintiff board.

As to the equitable rights of the individual optometrists who intervened, continued the court, although the majority of cases hold that a license confers on a practitioner a franchise which is in the nature of a property interest and is such a right as may be protected by a court of equity, nevertheless an injunction to protect that right, in the absence of a specific statute, will be denied unless the practitioner shows irreparable injury, inadequacy of remedy by other proceedings at law or that the unlawful practice was a public nuisance injuring his franchise. The true test of the individual plaintiffs' rights, therefore, depends on the construction to be given to the New Hampshire optometry practice act. That act does not, as do some optometry practice acts, give to licensed practitioners of optometry authority to enforce the provisions of the act, even if such power could be construed as usable in protection of private rights of property as distinguished from public rights. Only the public can do so by means of its servant, the board of examiners. The legislature, in passing the act in question requiring licenses to practice optometry, evinced no intention of freeing licensed

optometrists from competition or to create a monopoly for their benefit. The sole apparent intention of the legislature was to benefit the public by freeing it from the practice of incompetents. Only public officials, the members of the board of examiners, are recognized by the act as the sole guardians of the rights contemplated. There is no room for supposing that exclusion, left in such control, was intended to be for the benefit of the competent licensees. The court concluded that the individual plaintiffs had no property right to noncompetition by unlicensed or unlawfully practicing persons. Accordingly, the defendants' demurrer was sustained and the injunction denied.—*New Hampshire Board of Registration in Optometry et al. v. Scott Jewelry Co. et al.*, 9 A. (2d) 513 (N. H., 1939).

Malpractice: Liability of Physician for Negligence of Intern and for Delay in Removing Broken Needle.—The defendant physician, on Jan. 24, 1936, performed a gallbladder operation on the plaintiff at a hospital in the District of Columbia. After the operation the defendant instructed an intern to administer to the plaintiff a hypodermoclysis, consisting of a saline and dextrose solution. The equipment and solution for the injection were furnished by the hospital and taken to the plaintiff's room by a nurse. There the intern proceeded to administer the hypodermoclysis while the plaintiff was still under the influence of the anesthetic. The defendant was not present in the room at the time. The evidence showed that the lights in the plaintiff's room had been dimmed and were not turned up during the injection. While the intern was inserting a needle in the region of the plaintiff's right armpit, the needle broke off at the hub, leaving a segment about 2 inches (5 cm.) long in the subcutaneous tissue. Several attempts by the intern, the resident physician and the defendant were made to retrieve the broken portion but without success, and so the defendant decided to allow the needle to remain temporarily in the plaintiff's side. The plaintiff was taken home from the hospital on February 10 and was more or less of an invalid until the early part of March. Between the date of the operation and March 7 the plaintiff frequently experienced pain in her right side but apparently did not advise the defendant of that fact. On March 7 the defendant for the first time told the plaintiff that through the carelessness of an intern a needle had been broken off in her side and that it should be removed. She immediately consulted another physician, who also advised that the needle be removed. She then returned to the defendant, who extracted the broken needle on March 9. However, she continued to have pain in her side and she consulted four other physicians. In a subsequent suit against the defendant for damages caused by his alleged malpractice, one of these four physicians testified: "I thought at first that she had a painful scar. But the further along I went, the more I believed it was not a painful scar, but more a worked-up case, psychological." None of the other physicians consulted testified. From a judgment for the defendant on a directed verdict, the plaintiff appealed to the United States Court of Appeals for the District of Columbia.

The plaintiff first contended that the defendant was liable for the negligence of the intern in attempting the injection in a darkened room. The Court of Appeals, however, held that the doctrine of respondeat superior was not applicable. The intern, in following out the instructions of the operating physician, was merely furnishing services on behalf of the hospital, his employer; he was not assisting the defendant in the conduct of the operation. There is authority, said the court, for the view that an operating physician is liable for the negligence of an intern or other hospital employee while actually assisting him in the operating room, but when the intern or other hospital employee is negligent in carrying out the operating physician's instructions as to postoperative treatment, the overwhelming weight of authority is that the operating physician is not liable in the absence of proof "that he was negligent in giving the instructions or selecting the persons to carry them out, that he was present and could have avoided the injury by exercising due care, or that his special contract relative to the negligent employee was such as to make the doctrine of respondeat superior applicable." In the present case the plaintiff failed to prove any of those essential facts.

The plaintiff also contended that the defendant was negligent in failing to remove the broken needle until more than six weeks had elapsed after it had been broken off in the plaintiff's side. But, said the court, the mere showing that the broken needle was allowed to remain in the plaintiff's side for such a period of time did not prove that the defendant was negligent. All the evidence indicated that the plaintiff was a highly nervous woman and that for almost the entire six week period she was physically and mentally unable to withstand the strain of another operation. The evidence also showed that the needle was lodged in fatty tissue where the danger of infection or movement to a zone of danger was slight. Furthermore, none of the plaintiff's expert witnesses testified that the defendant's conduct was contrary to the accepted practice among physicians in the District of Columbia. The court held, therefore, that in the light of such facts the delay of the defendant did not constitute negligence.

The court could not agree with the plaintiff's further contention that the doctrine of *res ipsa loquitur* applied and that therefore she was not required to show any more than that the needle was broken and that the broken portion was allowed to remain in her side for more than six weeks. That doctrine, said the court, applies only when the facts which the plaintiff proves are sufficient to sustain an inference of negligence, although evidence directly establishing the negligent act is not available. Here the evidence disclosed fully the nature of the acts alleged to be negligent and those acts present no reasonable basis for inferring negligence. Accordingly, the Court of Appeals affirmed the judgment for the defendant.—*Hohenthal v. Smith*, 114 F. (2d) 494 (1940).

Society Proceedings

COMING MEETINGS

- American Medical Association, Cleveland, June 2-6. Dr. Olin West, 535 North Dearborn St., Chicago, Secretary.
- American Academy of Physical Medicine, New York, Apr. 28-30. Dr. Herman A. Osgood, 144 Commonwealth Ave., Boston, Secretary.
- American Association for the Study of Allergy, Cleveland, June 2-3. Dr. J. Harvey Black, 1405 Medical Arts Bldg., Dallas, Tex., Secretary.
- American Association for the Study of Goiter, Boston, May 12-14. Dr. W. Blair Mosser, 133 Biddle St., Kane, Pa., Secretary.
- American Association for the Surgery of Trauma, Montreal and Montebello, Canada, May 29-31. Dr. Ralph G. Carothers, 409 Broadway, Cincinnati, Secretary.
- American Association for Thoracic Surgery, Toronto, Canada, June 9-11. Dr. Richard H. Meade Jr., 2116 Pine St., Philadelphia, Secretary.
- American Association of Genito-Urinary Surgeons, Hot Springs, Va., May 29-31. Dr. Charles C. Higgins, 2020 East 93d St., Cleveland, Secretary.
- American Association of Industrial Physicians and Surgeons, Pittsburgh, May 5-9. Dr. Volney S. Cheney, % Armour and Company, Union Stock Yards, Chicago, Secretary.
- American Association of Medical Milk Commissions, Cleveland, June 1-2. Dr. Paul B. Cassidy, 2037 Pine St., Philadelphia, Secretary.
- American Association of the History of Medicine, Atlantic City, N. J., May 4-6. Dr. Henry E. Sigerist, 1900 East Monument St., Baltimore, Secretary.
- American Association on Mental Deficiency, Salt Lake City, June 20-24. Dr. E. Arthur Whitney, Washington Road, Elwyn, Pa., Secretary.
- American Broncho-Esophagological Association, Cleveland, June 3. Dr. Paul H. Holinger, 1150 North State St., Chicago, Secretary.
- American College of Chest Physicians, Cleveland, May 31-June 2. Dr. Paul H. Holinger, 500 North Dearborn St., Chicago, Secretary.
- American Gastro-Enterological Association, Atlantic City, N. J., May 5-6. Dr. Thomas T. Mackie, 16 East 90th St., New York, Secretary.
- American Gynecological Society, Colorado Springs, May 26-28. Dr. Richard W. TeLinde, Johns Hopkins Hospital, Baltimore, Secretary.
- American Heart Association, Cleveland, May 30-31. Dr. Howard B. Sprague, 50 West 50th Street, New York, Secretary.
- American Laryngological Association, Atlantic City, May 28-30. Dr. Charles J. Imperatori, 108 East 38th St., New York, Secretary.
- American Laryngological, Rhinological and Otolological Society, Los Angeles, June 16-18. Dr. C. Stewart Nash, 277 Alexander St., Rochester, N. Y., Secretary.
- American Medical Women's Association, Cleveland, June 1-2. Dr. Etta Gray, 649 South Olive St., Los Angeles, Secretary.
- American Neurological Association, Atlantic City, N. J., June 9-11. Dr. Henry A. Riley, 117 East 72d St., New York, Secretary.
- American Ophthalmological Society, Hot Springs, Va., May 29-June 1. Dr. Eugene M. Blake, 303 Whitney Ave., New Haven, Conn., Secretary.
- American Orthopedic Association, Toronto, Canada, June 9-12. Dr. Charles W. Peabody, 474 Fisher Bldg., Detroit, Secretary.
- American Otolological Society, Atlantic City, N. J., May 26-28. Dr. Isidore Friesner, 36 East 73d St., New York, Secretary.
- American Pediatric Society, Hot Springs, Va., May 22-24. Dr. Hugh McCulloch, 325 North Euclid Ave., St. Louis, Secretary.
- American Proctologic Society, Cleveland, June 1-3. Dr. William H. Daniel, 1930 Wilshire Blvd., Los Angeles, Secretary.
- American Psychiatric Association, Richmond, Va., May 5-9. Dr. Arthur H. Ruggles, 305 Blackstone Blvd., Providence, R. I., Secretary.
- American Radiology Society, Cleveland, June 2-3. Dr. William E. Costolow, 1407 South Hope St., Los Angeles, Secretary.
- American Rheumatism Association, Cleveland, June 2. Dr. A. R. Shands, Dupont Institute, Wilmington, Del., Secretary.
- American Society for Clinical Investigation, Atlantic City, N. J., May 5. Dr. Eugene M. Landis, University of Virginia Hospital, Charlottesville, Va., Secretary.
- American Society of Clinical Pathologists, Cleveland, May 30-June 1. Dr. A. S. Giordano, 531 North Main St., South Bend, Ind., Secretary.
- American Surgical Association, White Sulphur Springs, W. Va., Apr. 28-30. Dr. Charles G. Mixer, 319 Longwood Ave., Boston, Secretary.
- American Therapeutic Society, Cleveland, May 30-31. Dr. Oscar B. Hunter, 1835 Eye St. N.W., Washington, D. C., Secretary.
- American Urological Association, Colorado Springs, Colo., May 19-22. Dr. Clyde L. Deming, 789 Howard Ave., New Haven, Conn., Secretary.
- Association for Research in Ophthalmology, Cleveland, June 3. Dr. Conrad Berens, 35 East 70th Street, New York, Secretary.
- Association for the Study of Internal Secretions, Atlantic City, N. J., May 2-3. Dr. E. Kost Shelton, 921 Westwood Blvd., Los Angeles, Secretary.
- Association of American Physicians, Atlantic City, N. J., May 6-7. Dr. Hugh J. Morgan, Vanderbilt University Hospital, Nashville, Tenn., Secretary.
- California Medical Association, Del Monte, May 5-8. Dr. George H. Kress, 450 Sutter St., San Francisco, Secretary.
- Conference of State and Provincial Health Authorities of North America, Washington, D. C., Apr. 28-May 2. Dr. A. J. Chesley, State Office Bldg., St. Paul, Secretary.
- Connecticut State Medical Society, Bridgeport, May 21-22. Dr. Creighton Barker, 258 Church St., New Haven, Secretary.
- Florida Medical Association, Jacksonville, Apr. 28-30. Dr. Shaler Richardson, P. O. Box 1018, Jacksonville, Secretary.
- Georgia, Medical Association of, Macon, May 13-16. Dr. Edgar D. Shanks, 478 Peachtree St., N.E., Atlanta, Secretary.
- Hawaii Territorial Medical Association, Honolulu, May 2-4. Dr. A. L. Craig, Dillingham Bldg., Honolulu, Secretary.
- Idaho State Medical Association, Sun Valley, June 18-21. Dr. F. B. Jeppesen, 105 North 8th St., Boise, Secretary.
- Illinois State Medical Society, Chicago, May 20-23. Dr. Harold M. Camp, 224 South Main St., Monmouth, Secretary.
- Iowa State Medical Society, Davenport, May 14-16. Dr. R. L. Parker, 3510 Sixth Ave., Des Moines, Secretary.
- Kansas Medical Society, Topeka, May 13-15. Mr. C. G. Munns, 112 West Sixth St., Topeka, Executive Secretary.
- Massachusetts Medical Society, Boston, May 21-22. Dr. Robert N. Nye, 8 Fenway, Boston, Secretary.
- Medical Library Association, Ann Arbor, Mich., May 29-31. Miss Anna C. Holt, 25 Shattuck St., Boston, Secretary.
- Minnesota State Medical Association, St. Paul, May 26-28. Dr. B. B. Souster, 493 Lowry Medical Arts Bldg., St. Paul, Secretary.
- Mississippi State Medical Association, Biloxi, May 13-15. Dr. T. M. Dye, Box 295, Clarksdale, Secretary.
- Missouri State Medical Association, St. Louis, Apr. 28-30. Mr. E. H. Bartelsmeyer, 634 North Grand Blvd., St. Louis, Executive Secretary.
- National Gastroenterological Association, New York, May 13-16. Dr. G. Randolph Manning, Room 319, 1819 Broadway, New York, Secretary.
- National Tuberculosis Association, San Antonio, Tex., May 5-8. Dr. Charles J. Hatfield, 1790 Broadway, New York, Secretary.
- Nebraska State Medical Association, Lincoln, May 5-8. Dr. R. B. Adams, 416 Federal Securities Bldg., Lincoln, Secretary.
- New Hampshire Medical Society, Manchester, May 13-14. Dr. Carleton R. Metcalf, 5 South State St., Concord, Secretary.
- New Jersey, Medical Society of, Atlantic City, May 20-22. Dr. Alfred Stahl, 55 Lincoln Park, Newark, Secretary.
- New York, Medical Society of the State of, Buffalo, Apr. 28-May 1. Dr. Peter Irving, 292 Madison Ave., New York, Secretary.
- New York State Association of Public Health Laboratories, Syracuse, May 19. Miss Mary B. Kirkbride, New Scotland Ave., Albany, Secretary.
- North Carolina, Medical Society of the State of, Pinehurst, May 19-21. Dr. I. H. Manning, Chapel Hill, Secretary.
- North Dakota State Medical Association, Grand Forks, May 19-21. Dr. L. W. Larson, 221 Fifth St., Bismarck, Secretary.
- Ohio State Medical Association, Cleveland, June 3. Mr. C. S. Nelson, 79 East State St., Columbus, Executive Secretary.
- Oklahoma State Medical Association, Oklahoma City, May 19-22. Dr. L. S. Willour, 210 Plaza Court Bldg., Oklahoma City, Secretary.
- Pacific Coast Oto-Ophthalmological Society, Los Angeles, May 26-29. Dr. C. Allen Dickey, 450 Sutter Street, San Francisco, Secretary.
- Rhode Island Medical Society, Providence, May 28-29. Dr. Guy W. Wells, 124 Waterman St., Providence, Secretary.
- Society for the Study of Asthma and Allied Condition, Atlantic City, N. J., May 3. Dr. W. C. Spain, 116 East 53d St., New York, Secretary.
- Society of Surgeons of New Jersey, Painfield, May 28. Dr. Walter B. Mount, 21 Plymouth St., Montclair, Secretary.
- South Dakota State Medical Association, Mitchell, May 18-20. Dr. Clarence E. Sherwood, 107½ Egan Ave., Madison, Secretary.
- Texas, State Medical Association of, Fort Worth, May 12-15. Dr. Holman Taylor, 1404 West El Paso St., Fort Worth, Secretary.
- Utah State Medical Association, Salt Lake City, June 12-14. Dr. D. G. Edmunds, 610 McIntyre Bldg., Salt Lake City, Secretary.
- West Virginia State Medical Association, Charleston, May 12-14. Mr. Joe W. Savage, Public Library Bldg., Charleston, Executive Secretary.

Current Medical Literature

AMERICAN

The Association library lends periodicals to members of the Association and to individual subscribers in continental United States and Canada for a period of three days. Three journals may be borrowed at a time. Periodicals are available from 1931 to date. Requests for issues of earlier date cannot be filled. Requests should be accompanied by stamps to cover postage (6 cents if one and 18 cents if three periodicals are requested). Periodicals published by the American Medical Association are not available for lending but can be supplied on purchase order. Reprints as a rule are the property of authors and can be obtained for permanent possession only from them.

Titles marked with an asterisk (*) are abstracted below.

Archives of Physical Therapy, Chicago

22:1-64 (Jan.) 1941

- Application of the New Food, Drug and Cosmetic Act to Therapeutic Devices. T. G. Klumpp, Washington, D. C.—p. 5.
Present Status of Short Wave Diathermy in Nasal Sinusitis. A. R. Hollender, Miami Beach, Fla.—p. 12.
Effect of Hyperpyrexia on Blood Hydrogen Ion Concentration. S. L. Osborne, Chicago.—p. 17.
Electrosurgery in Advanced Cancer and Reconstruction. T. de Chelnoky, New York.—p. 21.
Significance of Function in Tendon Repair. M. L. Mason, Chicago.—p. 28.
Physical Therapy in Disabilities Covered by Workmen's Compensation. H. H. Jordan, New York.—p. 35.

Johns Hopkins Hospital Bulletin, Baltimore

68:1-118 (Jan.) 1941

- Eye Movements in Electroencephalogram. R. S. Lyman, Baltimore.—p. 1.
Type I Pneumococcus Pneumonia: Clinicoimmunologic Studies, with Special Reference to Rationale of Combined Serum and Drug Therapy. J. W. Haviland, Baltimore.—p. 32.
Effect of Insulin on Glycogen Deposition and on Glucose Utilization by Isolated Muscles. C. L. Gemmill and L. Hamman Jr., Baltimore.—p. 50.
Neurotropism and Genesis of Cerebral Lesions in Poliomyelitis: Experimental Study. D. Bodian and H. A. Howe, Baltimore.—p. 58.
Method for Study of Neuromuscular Transmission in Human Subjects. A. M. Harvey and R. L. Masland, Philadelphia.—p. 81.
*Sulfanilylguanidine in Treatment of Acute Bacillary Dysentery in Children. E. K. Marshall Jr., A. C. Bratton, Lydia B. Edwards and Ethel Walker, Baltimore.—p. 94.

Sulfanilylguanidine for Bacillary Dysentery.—According to Marshall and his collaborators, experimental studies of sulfanilylguanidine suggest that it or some other compound having similar properties may prove useful in the treatment of bacterial infections of the intestine. The intestinal contents can be saturated with a dosage of the drug which gives a low concentration in the blood. Sulfanilylguanidine was used in the treatment of 17 children with acute bacillary dysentery from whose stools the dysentery organism was recovered. Treatment was usually begun within twenty-four hours of admission or as soon as the diagnosis of probable dysentery was made. Initial doses were either 0.1 or 0.2 Gm. per kilogram of body weight; maintenance doses varied from 0.1 Gm. every eight or twelve hours to 0.05 Gm. every four hours. Otherwise the management was the standard for gastrointestinal disorders. The results of treatment instituted early in the disease differed from those when treatment was begun later. Of 7 children treated on or before the third day of the disease the temperature within twenty-eight hours, and frequently much sooner, had fallen below 100.4 F. in every case and the children remained afebrile. Within twelve to thirty-six hours after the drug was started there was decided improvement in the general condition, some of the children appearing almost well after twenty-four hours of chemotherapy. The diarrhea was checked in from one to three days in all children given sulfanilylguanidine every four hours. Chemotherapy of the other 10 children was started within the fourth to the fourteenth day of the disease. The results were not uniform. Some of the children showed the same striking improvement that occurred in those treated early, but the course of most of them was uninfluenced by the sulfanilylguanidine. The stool cultures of 10 of the 17 children became negative for dysentery organisms during treatment and remained negative during hospitalization, of 5 others they became negative on the last day of therapy or within two days after its

discontinuance, 1 child had an inconstant positive culture (Sonne) during and after drug administration and 1 had a negative culture before treatment was started. In addition to the 17 cases of proved acute bacillary dysentery, 3 infants were treated with sulfanilylguanidine who were thought to have the disease but whose stools failed to yield the organism. A child of 14 months was treated on the first day of a clinically typical attack of acute dysentery and was dramatically cured in twenty-four hours. The 2 other infants, aged 5 and 8 months respectively, were treated on the third and fourth day of an acute gastroenteritis without beneficial effect. A variety of *Salmonella enteritidis* was cultured from the stools of 1 and the *Morgan bacillus* and later a variety of *Salmonella enteritidis* from the stools of the other child. No definite toxic effects have been observed. With one exception none of the children received the drug for more than fourteen days, the fluid intake was always adequate and a careful watch was kept for any evidence of renal insufficiency. The authors recommend the following dosage program for further trial of sulfanilylguanidine in acute bacillary dysentery in children: initial dose by mouth 0.1 Gm. per kilogram, maintenance dose 0.05 Gm. every four hours until the daily number of stools is four or less, then 0.1 Gm. every eight hours for at least three days. The finely powdered drug is mixed in milk or in water. In adults the dosage schedule for bacillary dysentery has been the same as for children except that when the drug is given every eight hours 0.05 Gm. per kilogram is given instead of 0.1 Gm.

Journal of Clinical Investigation, New York

20:1-106 (Jan.) 1941

- Mechanism of Diuresis: Alterations in Specific Gravity of Blood Plasma with Onset of Diuresis in Heart Failure. H. J. Stewart, New York.—p. 1.
Urinary/Fecal Coproporphyrin Ratio in Liver Disease. S. A. Localio, M. S. Schwartz and Catherine F. Gannon, New York.—p. 7.
Studies on Relief of Pain by Counterirritation. G. D. Gammon and I. Starr, Philadelphia.—p. 13.
Quantitative Study of Urinary Excretion of Hypophyseal Gonadotropin, Estrogen and Androgen of Normal Women. S. C. Werner, New York.—p. 21.
Effect of Varying Intake of Protein and Salts on Composition and Specific Gravity of Urine. M. Miller, J. W. Price and L. P. Longley, Cleveland.—p. 31.
Distribution of Ascorbic Acid Between Cells and Serum of Human Blood. M. Heinemann, New Haven, Conn.—p. 39.
Renal Excretion of Inorganic Phosphate in Relation to Action of Vitamin D and Parathyroid Hormone. H. E. Harrison and Helen C. Harrison, New York.—p. 47.
Studies on Neoplasms with Aid of Radioactive Phosphorus: II. Phosphorus Metabolism of Nucleoprotein, Phospholipid and Acid Soluble Fractions of Normal and Leukemic Mice. L. W. Tuttle, L. A. Erf and J. H. Lawrence, Berkeley, Calif.—p. 57.
Measurement of Effect on Pain Threshold of Acetylsalicylic Acid, Acetanilid, Acetophenetidin, Aminopyrine, Ethyl Alcohol, Trichloroethylene, Barbiturate, Quinine, Ergotamine Tartrate and Caffeine: Analysis of Their Relation to Pain Experience. H. G. Wolff, J. D. Hardy and H. Goodell, New York.—p. 63.
Thrombocytopen: Confirmatory Report. H. Rose Jr. and L. B. Boyer, San Francisco.—p. 81.
Measurement of Cardiac Output: Improvement of Acetylene Method Providing Inherent Check. W. Adams and Irene Sandiford, Chicago.—p. 87.
Liver Lipids in Normal Human Livers and in Cases of Cirrhosis and Fatty Infiltration of Liver. Elaine P. Ralli, S. H. Rubin and S. Rinzler, New York.—p. 93.
Electrophoretic Analysis of Proteins of Plasma and Serous Effusions. J. A. Luetscher Jr., Boston.—p. 99.

Journal of Immunology, Baltimore

40:1-72 (Jan.) 1941

- Serologic Reactivity of Nucleic Acid. D. Lackman, S. Mudd, M. G. Sevag, J. Smolens and Maria Wiener, Philadelphia.—p. 1.
Production of Diphtheric Toxin of High Potency (100 Lf) on Reproducible Medium. J. H. Mueller and Pauline A. Miller, Boston.—p. 21.
Acid Hydrolysates of Casein to Replace Peptone in Preparation of Bacteriologic Mediums. J. H. Mueller and E. R. Johnson, Boston.—p. 33.
Electrophoretic Study of Heated Horse Serum. J. Van Der Scheer, R. W. G. Wyckoff and F. L. Clarke, Pearl River, N. Y.—p. 39.
Report of Trial of a New Schick Toxin. G. D. W. Cameron and J. Gibbard, Ottawa, Ont., Canada.—p. 47.
Studies on Antipneumococcus Rabbit Serum: III. Comparison of Quantitative Precipitative and Agglutinative Reactions. T. D. Gerlough, J. W. Palmer and R. R. Blumenthal, New Brunswick, N. J.—p. 53.
Immunity in Monkeys Recovered from Paralytic Attacks of Poliomyelitis. J. F. Kessel and F. D. Stimpert, Los Angeles.—p. 61.

Kentucky Medical Journal, Bowling Green

39:45-86 (Feb.) 1941

- Scalenus Anticus Syndrome. F. Jelsma, Louisville.—p. 48.
 Problem of Drainage in Operations on Bile Passages and Gallbladder. G. Gaither, Hopkinsville.—p. 54.
 Subphrenic Abscess: Report of Three Cases. C. M. Bernhard, Louisville.—p. 56.
 Vomiting of Early Pregnancy. E. P. Solomon, Louisville.—p. 58.
 Obesity. R. N. Holbrook, Louisville.—p. 65.
 Roentgen Kymography as Aid in Diagnosis of Constrictive Pericarditis. S. E. Johnson, Louisville.—p. 70.
 Early Diagnosis and Treatment in Neurosyphilis. J. H. Ronpf, Lexington.—p. 73.
 Traffic Elbow. C. F. Wood, Louisville.—p. 78.
 Intussusception of Meckel's Diverticulum. M. Casper, Louisville.—p. 81.
 Treatment of Carriers of Typhoid Paratyphoid Group. M. L. Garon, Louisville.—p. 82.

Missouri State Medical Assn. Journal, St. Louis

38:37-70 (Feb.) 1941

- Treatment of Some Contagious Diseases. J. H. Musser, New Orleans.—p. 37.
 Obstruction of Lacrimal Passages in the Newborn Infant. J. F. Hardesty, St. Louis.—p. 40.
 Sulfanilamide in Otolaryngology. W. B. Black, Kansas City.—p. 41.
 Diagnosis and Management of Gallbladder Disease. C. J. Hunt, Kansas City.—p. 46.
 Acne Vulgaris: New Concept of Etiology: Disturbance of Lipoid Metabolism: Effective Treatment. R. L. Sutton Jr., Kansas City.—p. 50.
 Diseases of Gastrointestinal Tract in the Aged. J. C. Kopelowitz, Los Angeles.—p. 55.

New York State Journal of Medicine, New York

41:83-194 (Jan. 15) 1941

- Specific Treatment of Pneumonia, with Special Reference to Chemotherapy and Antipneumococcus Serum. E. S. Rogers, Loudonville; D. D. Rutstein and A. D. Langmuir, Albany.—p. 111.
 Treatment of Leukorrhea with Ozonide of Olive Oil. D. N. Barrows, New York.—p. 118.
 Treatment of Pneumonia with Sulfapyridine. M. Fogel, Brooklyn.—p. 122.
 New Method for Preparation of Dilute Blood Plasma and Operation of a Complete Transfusion Service. J. B. Alsever and R. B. Ainslie, Syracuse.—p. 126.
 Current Problems in Diphtheria. E. Seligmann, New York.—p. 136.
 Streptococcus Viridans Pneumonia: Report of Eight Cases. F. F. Senerchia Jr. and H. R. Livengood, Elizabeth, N. J.—p. 143.
 *Anuria Due to Complete Bilateral Ureteral Impaction with Concretions Following Use of Sulfapyridine in Pneumonia. R. L. Dourmashkin and M. Worton, New York.—p. 146.

41:195-306 (Feb. 1) 1941

- Cardiovascular Syphilis: Clinical and Electrocardiographic Study. L. H. Berk, New York.—p. 223.
 Public Health Aspects of Cardiovascular Syphilis in New York City. J. Weinstein, New York.—p. 234.
 Blood Wassermann Reaction in 800 Private Patients. Connie M. Guion, Elisabeth C. Adams and A. P. McCombs, New York.—p. 237.
 Syphilis in Pregnant Woman. M. D. Speiser, New York.—p. 240.
 Venereal Disease Prophylaxis: Ideal Prophylactic and Technic. I. I. Lubowe, New York.—p. 247.
 Syphilis and Diabetes Mellitus: Critical Study of Their Relation to Each Other in 1,000 Cases of Diabetes Mellitus. J. R. Williams, Rochester.—p. 252.
 Chronic Tonsillitis in Secondary Syphilis—Differential Diagnosis from Diphtheria and Vincent's Infection: Report of Twenty-Three Cases. E. W. Thomas and D. H. Goldstein, New York.—p. 256.
 Roentgen Treatment of Patients with Advanced Malignancy. J. V. Meigs, Boston.—p. 260.

Anuria Following Sulfapyridine Therapy.—Dourmashkin and Worton discuss clinical manifestations of concretions in the urinary tract following sulfapyridine therapy. Experimental and clinical data in the literature and the experience in their own case of anuria due to complete impaction of the ureters with sulfapyridine concretions point definitely to the fact that hematuria is not a manifestation of toxic nephritis induced by the drug but the result of local tissue laceration and that it may originate anywhere in the urinary tract. The degree of urinary stasis may depend on the local ability of the urinary tract to get rid of accumulated concretions. Other clinical manifestations are those of ureteral obstruction and may vary from slight unilateral or bilateral costovertebral pain to a typical colic with all its accompanying symptoms: nausea, vomiting and general prostration. In the latter the retention of urine above the site of ureteral obstruction is, as a rule, complete. Complete retention may be associated with little or no pain. In the case reported the pain was more predominant

on the right side, although the obstruction was more obvious on the left side. In the authors' case of complete anuria only 6.5 Gm. of the drug had been administered during two days. Schiffrin's patient received as much as 246 Gm. of the drug during sixty-three days without apparent interference with urinary drainage, although at necropsy both renal pelves and all calices were filled with mushy, gritty acetylsulfapyridine concretions. This patient, until death, passed large daily amounts of urine. She had, however, a continuous distinct hematuria. The absence of renal enlargement and hydro-nephrosis at necropsy pointed to the fact that the patient's ureters, which were found to be somewhat dilated, were particularly patent. Therefore even small doses may produce complete anuria if the condition of the urinary tract favors the retention of crystalline deposits. Oliguria undoubtedly indicates an incomplete bilateral obstruction and should call for cystoscopic drainage when it cannot be relieved by large amounts of fluid by mouth and intravenous injections of dextrose. Oliguria, as a rule, precedes anuria. The recognition of its mechanical nature is extremely important, as timely cystoscopy may be life saving. Anuria may be produced by massive deposition of crystals in the collecting tubules, and in such an event cystoscopy obviously cannot reestablish renal drainage. Bilateral ureteral catheterization reestablished renal drainage in the authors' patient, with complete recovery. Immediately after ureteral catheterization pain in the right kidney disappeared. Indwelling catheters were allowed to remain in both ureters for twenty-four hours, and during this time 34 ounces (1,020 cc.) of urine was obtained from the right kidney and 30 ounces (900 cc.) from the left, in addition to a few ounces voided voluntarily. The catheters were washed whenever drainage slowed up.

Ohio State Medical Journal, Columbus

37:105-208 (Feb.) 1941

- Treatment and Complications of Common Cold. H. M. Goodyear, Cincinnati.—p. 121.
 Recrudescence of Diphtheria. A. Gelperin, Cincinnati.—p. 124.
 Diagnostic Pointers in Diseases of Lungs. E. Podolsky, Brooklyn.—p. 127.
 Acute Free Perforation of Gallbladder Following Cholecystostomy. J. J. Marek, Cleveland.—p. 129.
 Complication Following Use of Estrogen in Spondylitis. W. M. Solomon, Cleveland.—p. 131.
 Kinked Right Common Carotid Artery. M. H. Rosenblum, Steubenville.—p. 133.
 Anuria and Ureteral Obstruction Due to Sulfapyridine: Report of Case. J. E. Williams, Cleveland.—p. 134.
 Therapy of Nondiabetic Glycosuria. H. J. John, Cleveland.—p. 136.
 Otitis Media in Scarlet Fever: Survey of Cases at Cleveland City Hospital for the Past Ten Years. C. W. Engler, Cleveland.—p. 139.
 "An Ounce of Prevention." B. B. Caplan, Toledo.—p. 144.
 Lymphocytic Choriomeningitis with Isolation of Virus. J. E. Brown Jr., Columbus.—p. 146.
 Chronic Friedländer's Bacillus Infection in Lungs: Case Record Presenting Clinical Problems. J. M. Rueggeger and Pearl M. Zeek, Cincinnati.—p. 149.

Oklahoma State Medical Assn. Jour., Oklahoma City

34:1-58 (Jan.) 1941

- Diagnostic Points in Rectal Cancer. C. Rosser, Dallas, Texas.—p. 1.
 Discussion of Treatment of Bladder Neck Obstruction. S. D. Neely, Muskogee.—p. 5.
 Vitallium for Nasal Skeleton Support. G. H. Kimball and N. R. Drummond, Oklahoma City.—p. 9.
 Management of Late Syphilis, with Special Reference to Neurosyphilis. C. P. Bondurant, Oklahoma City.—p. 12.
 Tuberculosis of Genital Tract. A. M. Brewer, Oklahoma City.—p. 16.

Public Health Reports, Washington, D. C.

56:89-128 (Jan. 17) 1941

- Study of Certain Factors Which Influence the Determination of Mouse Protective Action of Meningococcus Antiserum. Margaret Pittman.—p. 92.
 What Industry Has Learned About Leadership: Its Application to Public Health. S. J. Fosdick.—p. 110.

South Carolina Medical Assn. Journal, Greenville

37:1-24 (Jan.) 1941

- Rupture of Kidney. H. E. Wyman, Columbia.—p. 1.
 Differentiation of Common Crises in Cerebral Circulation. W. R. Mead, Florence.—p. 5.
 Congenital Megacolon: Report of Case Treated by Sympathectomy. F. E. Kredel and M. W. Beach, Charleston.—p. 11.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

British Medical Journal, London

1:39-72 (Jan. 11) 1941

Pride and Prejudice in Treatment of Cancer. A. Webb-Johnson.—p. 39.

*Survey of Nutrition and Dental Caries in 120 London Elementary School Children. Irene Allen.—p. 44.

Anesthesia for Major Dental Surgery: Alternative to Endotracheal Method. W. W. Mushin.—p. 46.

*Optimal Calcium Requirement. I. Harris, J. T. Ireland and G. V. James.—p. 49.

Cerebral Cholesteatoma: Case. I. R. S. Gordon.—p. 51.

Nutrition and Dental Caries in London Children.—Allen studied the effect of nutrition on the dental caries of 120 children from 5 to 7 years of age. The average caries figures and the nutrition indexes were calculated at the first inspection and again at the end of one year. There was a fairly high negative correlation at the age of 5 between the increase in the average caries figure and the increase in the nutrition figure; that is, the greater the increase in the nutrition index (indicative of improvement in nutrition) the less the increase in caries. At 6 years of age the same relation existed. At 7 years no correlation was found between the two conditions, but this group is not so satisfactory because many of the deciduous teeth were already normally shed. No association existed between the amount of caries found at the first inspection and that at the second inspection except that the onset and spread of caries tended to be less when the nutrition was better. Studies in animals show that good dental structure can be produced by dietary methods, and the same is true for children. Postoperative influences, though less strong, appear to provide secondary protection. Vitamin additions to the diet before eruption of the teeth had a definitely beneficial effect in reducing the amount of decay which developed, and also even after full eruption the additions tended to delay the onset and spread of caries in the permanent teeth. Among the 120 elementary school children the lower incisors and canines showed the best surface structure and the molars the worst, the upper incisors and canines being intermediate; the structurally soundest teeth were those of which the greatest part is formed in utero before dietary deficiencies are normally felt by the child. There was a definite association between the quality of the structure of the teeth and the amount of caries present: the better the structure, the greater the resistance to dental disease. An improvement in physical condition as judged by better nutrition index at 5 and 6 years of age was associated with a smaller increase in dental caries.

Optimal Calcium Requirement.—Harris and his associates present studies which indicate that levels of serum calcium should not be utilized as criteria of adequate calcium intakes, as serum calcium appears to be independent of the intake. Calcium determinations of 51 random patients showed that only 4 had levels below 9 mg. per hundred cubic centimeters; from 9 to 11.5 mg. is considered normal for adults. The authors put patients on high and low calcium intake for fourteen days. Between the two periods they were kept for some time on a normal diet. From this investigation and a prolonged search for calcium deficiency in an extensive hospital practice they say that, apart from osteomalacia, which in any case is very rare, an ultimate balance is established between calcium intake and output. Sir John Orr says that in half of the population of the country the calcium intake is below that required. On a high calcium intake there is retention of the substance. The authors state that this piling up of calcium cannot continue indefinitely or a hypercalcemia will result. They point out that there is no evidence which suggests that the majority of the population is suffering from the effects of calcium insufficiency but that large sections of the population are in the habit of using too much food rich in calcium. They conclude that there may be an indication for reducing the food calcium but there is none for increasing it. According to Sir John Orr, in half the population the calcium intake

is satisfactory, and this half the authors say will be suffering from the effects of hypercalcemia if the calcium content of the diet of the country is raised.

Medical Journal of Australia, Sydney

1:65-96 (Jan. 18) 1941

*Two Methods for Detection of Influenza Virus in Human Throat Washings Without Use of Ferrets. F. M. Burnet and M. Foley.—p. 68. The Medical Industrial Efficiency Department. H. L. Kesteven.—p. 72. Cultivation of β -Hemolytic Streptococci on Maltose-Blood-Agar: Presumptive Test for Group A. R. T. Simmons and H. Wilson.—p. 74. Brose-Jones Test for Cancer. J. B. Thiersch and S. Schlosser.—p. 77.

Detection of Influenza Virus in Human Throat Washings.—Burnet and Foley find that influenza virus can be isolated and identified from filtrates of human throat washings by amniotic inoculation into chick embryos. To obtain the filtrate the patient is given 10 cc. of saline solution and after thorough gargling the fluid is mixed with 5 cc. of nutrient broth and sent to the laboratory as quickly as possible. It is then filtered through sterile filter paper to remove mucus and debris, and this filtrate is used for mouse inoculation and for further filtration through a gradocol membrane with an average pore diameter of about 0.8 micron. The membrane filtrate is tested for sterility and used for egg or ferret inoculations. With the primary paper filtrates the authors usually inject about 0.25 cc. into the amniotic cavity of chick embryos of 12 days and make an examination after four days of further incubation. Definite changes in the tracheal fluid and in the macroscopic appearance of the lungs were observed in the entire primary series of embryos. Pooled amniotic and allantoic fluids were collected from all eggs as they were opened, and passages were made with those from embryos showing typical lesions. Mice were inoculated intranasally under light anesthesia with 0.05 cc. of fluid, the inoculum being delivered from a calibrated capillary pipet. Those receiving the primary paper filtrates were reinoculated fourteen days later with 1:100 dilution of stock Melbourne mouse virus, equivalent to about one hundred minimal lethal doses. The survivors were examined seven days later for the extent of pulmonary lesions. Inoculations of egg material were usually of pooled embryonic fluids diluted 1:5 or 1:10. The mice were bled for serum or given a test inoculation of active virus fourteen days later. Serum titrations were made both by chorioallantoic and by mouse methods. Standard technics and the Melbourne egg or mouse strains of virus were used. Isolation of the virus from material which was noninfective to ferrets provides a particularly definite indication of the value of the amniotic method. This and the ease with which all types of mouse, ferret or chorioallantoic strains can be propagated seems to justify the statement that the amniotic method is the method for isolating influenza virus. Primary infections of the chick embryo are easily recognized by examining tracheal smears. Repeated passage is not required before lesions are visible, as is necessary with chorioallantoic inoculations. A further advantage is that three or four days after the primary inoculation each egg provides from 5 to 10 cc. of high titer infective material free from bacteria for further work. The authors have had insufficient experience to discuss the readiness with which mouse strains can be developed from amniotic material. Primary amniotic fluids nearly always gave small pulmonary lesions in mice. They have carried out only one series of mouse passages of a strain isolated by the amniotic method. The strain Rich. was transferred to mice after three amniotic passages. Definite lesions were produced; but in the next passage of ground mouse lung the lesions were smaller, with the third mouse passage they were larger and in two more passages mice were dying in five days when inoculated with undiluted virus emulsion. Unless the strain is exceptional, there should be no difficulty in establishing mouse strains from primary amniotic isolations. The inoculation of paper filtrates of throat washings in mice is likely to be useful only when makeshifts must be employed; e. g., to show that an epidemic in some isolated community was due to influenza virus. The amniotic method, the authors believe, will provide all the information ordinarily necessary to characterize a strain of influenza virus.

Archiv für Kreislaufforschung, Dresden

6:293-398 (May) 1940

*Clinical Aspects of Sclerosis of Pulmonary Artery. K. Hohenner.—p. 293.

Cardiopneumatic Movement, Its Form, Its Nature and Its Behavior in Low Pressure Region. E. M. Müller and H. O. Wachsmuth.—p. 325. Experimental Investigations on Action of Epinephrine on Myocardium. G. Veith.—p. 335.

Electrocardiographic and Anatomic Investigations on Rabbits Regarding Action of Insulin Shock and of Metrazol Convulsions on Heart. H. Meessen.—p. 361.

Sclerosis of Pulmonary Artery.—According to Hohenner, Romberg in 1891 described a case in which severe cyanosis was the chief symptom and which had been clinically diagnosed as a congenital cardiac defect and in which necropsy revealed sclerotic changes in the pulmonary artery. Descriptions of similar cases followed, but as late as 1919 it was believed that the diagnosis of sclerosis of the pulmonary artery is possible only at necropsy. Ayerza, a South American, described in 1901 this disorder under the term "cardiaco negro," and in later years the term "Ayerza's disease" found wide application. There are two forms of sclerosis of the pulmonary artery, the "primary" and the "secondary." The secondary form occurs as a sequel to increased pressure in the pulmonary artery in such conditions as congenital cardiac defect, in lesions of the mitral valve and in pulmonary emphysema. The author reports 11 cases of the primary and 3 of the secondary form. The first patient with secondary sclerosis had no pulmonary or cardiac complaints, but roentgenoscopy disclosed the existence of sclerosis of the pulmonary artery. The second patient presented symptoms of pulmonary emphysema, chronic bronchitis and bronchiectasis. Cyanosis together with pulmonary and hepatic stasis pointed to myocardial insufficiency. The diagnosis of sclerosis of the pulmonary artery was again made possible by roentgenoscopy. Dilatation of the pulmonary artery was revealed by a widening of the shadows of the hilus vessels. This symptom was not detectable during the stage of decompensation on account of the simultaneously existing pulmonary stasis. It became demonstrable after compensation had been established. The same roentgenologic sign led to the diagnosis of "secondary" sclerosis of the pulmonary artery in the third case. The author emphasizes that in the "secondary" form sclerosis of the pulmonary artery never exerts a noticeable influence on the underlying disorder. It is only a partial manifestation of a sclerosis of the entire circulation. Clubbed fingers are usually absent in this form. "Primary" sclerosis of the pulmonary artery is an independent disease entity. It is now often referred to as the arteriogenic form because stenosis of the arterioles is its most essential aspect, sclerosis of the trunk and main branches being secondary to this. The author presents detailed histories of 8 cases of "primary" (arteriogenic) sclerosis of the pulmonary artery. Arteriogenic pulmonary sclerosis is a chronic disorder. The first stage is often characterized by chronic bronchitis and frequent catarrhs. During this stage the correct diagnosis is difficult, many patients not presenting themselves for treatment until circulatory failure results. During this second stage the disease takes on the aspect of a cardiac disorder. The hypertrophy of the right side of the heart, the cyanosis and the accentuated second pulmonary sound may simulate a mitral valve lesion, particularly in the stage of adequate compensation. A decompensated heart, mild dyspnea, and severe cyanosis suggest pulmonary artery sclerosis. More definite recognition is possible by roentgenologic demonstration of calcium in the wall of the main branches of the pulmonary artery and by the detection of calcified thrombi within it. The author observed a sign which permits the differentiation of sclerosis of the pulmonary artery from simple pulmonary stasis in the sagittal exposure. In pulmonary stasis all, even the smallest, ramifications of the pulmonary artery are dilated, whereas in sclerosis of the pulmonary artery the peripheral vessels are extremely narrow in contrast to the greatly dilated main branches. Although some investigators assume a syphilitic origin for sclerosis of the pulmonary artery, the author rejects this cause in his patients because the Wassermann reaction was negative and there were no other syphilitic changes. Most histories disclosed infectious disease. The prognosis of this condition is unfavorable. Causal therapy is not possible. Hochrein and his collaborators have suggested a new therapeutic possibility by pointing out that

in sclerosis of the pulmonary artery, as well as in chronic emphysema, there exists a deficient blood perfusion of the peripheral pulmonary artery. Clinical experience and tests on animals show that blood perfusion can be improved by pharmacologic stimulation of the vagus, by respiration under negative pressure and by respiratory gymnastics.

Jahresb. d. Kurashiki-Zentralhosp., Kurashiki

14:107-244 (Aug.) 1940. Partial Index

*Pathogenesis and Clinical Types of Pneumonia in Infants and Children. I. Ishida.—p. 113.

Pneumonia in Infants and Children.—Ishida approaches the study of pneumonia in infants and children from the standpoint of individual reaction to the infecting agent. Owing to the absence of immune bodies, the newly born infant may be regarded as virgin soil for pneumonic infection. Hence the invasion of the etiologic micro-organisms produces a severe bacteremia systemically, while relatively little local reactions occur because of the lack of any allergic tendency. The newly born infant is protected against certain infections by transplacental immunity and gradually establishes its own immunity, which may then be called the process of normergy. The pneumococcal infection in such infants manifests itself in the form of bronchopneumonia. In older children this type of pneumonia may occur as a primary type, especially when pneumonic infection follows other diseases, such as measles and pertussis, which act as predisposing causes of anergy. With the increasing degree of immunity the infection manifests itself as a localized process but nevertheless it is still combined with the primitive form, which may be called an intermediary type. The hyperergic type of pneumonia is seen in the relatively mature child with a well developed immunity, in which the infection occurs as a severe local process with relatively mild systemic manifestations. This lobar pneumonia may be associated with focal infections in other parts of the lung, such as in the periphery (marginal pneumonia) or the hilus (hilar pneumonia). From an analysis of 195 cases of pneumonia in infants and children, including roentgenographic studies, Ishida offers the following classification based on the foregoing conception: 1. Allergic pneumonia (bronchopneumonia): (a) disseminated pneumonia, (b) hilifugal-perivascular-bronchial pneumonia, (c) confluent focal pneumonia. 2. Hyperergic pneumonia (lobar pneumonia): (a) marginal-focal pneumonia, (b) hilar pneumonia, (c) croupous pneumonia. 3. Hyperergic pneumonia: (a) hilifugal-infiltrating pneumonia, (b) marginal-progressive-infiltrating pneumonia, (c) wandering pneumonia, (d) abortive pneumonia. The author attempted a statistical study as to the distribution of various types according to age, seasons, febrile course, nature of lysis or crisis, and mortality. The analysis of roentgenograms of these patients is summarized as follows: Anergic forms of pneumonia are associated with severe systemic manifestations with poor prognosis and widely disseminated pneumonic changes in the lungs, although the individual foci of infection may be relatively mild. In cases of hyperergic pneumonia, the systemic manifestations are usually mild but characterized by severe localized reactions, frequently limited in one lobe. In the hyperergic forms, the pulmonary pathologic conditions again become diffuse and disseminated, but never as extensive as in bronchopneumonia and often confined to one side. Although systemic reactions are moderately severe, the prognosis as a rule is good. In cases of positive anergy there may be no actual infection in the lungs; but with mild systemic manifestations localized indeterminate lesions may be demonstrated by roentgenographic examination (abortive pneumonia). Pneumonic infection in infants under 3 months of age manifests itself in any of the three forms: (1) mild bronchopneumonia, as influenced by the presence of maternal immunity, (2) severe bronchopneumonia resulting from negative anergy, due to some unknown constitutional factors, and (3) anergic lobar pneumonia. The opinion is expressed that pneumonia in infants and children is not explainable merely on the basis of the season, the etiologic agent or the age; these are important, but they constitute only the predisposing cause. The real explanation lies in the nature of the reactive stage in which the individual patient happens to be situated.

Book Notices

The Pharmacological Basis of Therapeutics: A Textbook of Pharmacology, Toxicology and Therapeutics for Physicians and Medical Students. By Louis Goodman, M.A., M.D., Assistant Professor of Pharmacology and Toxicology, Yale University School of Medicine, New Haven, and Alfred Gilman, Ph.D., Assistant Professor of Pharmacology and Toxicology, Yale University School of Medicine. Cloth. Price, \$12.50. Pp. 1,333, with 126 illustrations. New York: Macmillan Company, 1941.

Among the various new books on pharmacology and therapeutics which have been published in recent years this volume is noteworthy, and it will fill the much felt need for an up to date source of information and student textbook. It is based on the modern literature and gives special attention to the evidence relating to controversial points, and this has resulted in a stimulating presentation which has the quality of freshness. In this respect the book contrasts with the older textbooks in general use, which are prone to carry much material through many editions without rewriting.

The underlying physiology is briefly presented and the drugs are grouped, where feasible, according to the system with which their actions are most prominently associated, and all aspects of each drug are, with a few exceptions, considered in a single section. In certain instances, as with the heavy metals and vitamins, the authors have, as is customary, resorted to a chemical grouping. Newer compounds having therapeutic application are well covered, and this aspect gives the book an almost unique place as a reference work. Thus the sulfonamide compounds alone occupy one hundred pages, and there is a section on the war gases. In keeping with the current breadth of pharmacologic teaching, attention is given to hormones and vitamins. The book opens with an interesting review on general principles and closes with a chapter on the writing of prescriptions. An adequate selection of the more important references is printed at the end of each section and includes a useful list of monographs and reviews.

In the preface the authors state that the emphasis throughout has been clinical; accordingly, full use has been made of the evidence derived from human pharmacology in health and disease. However, this has been done without neglecting the fundamental aspects derived from laboratory investigations. Less emphasis has been placed on the relationship between chemical structure and biologic activity, but on the whole the treatment is adequate. To the pharmacologist it will require some readjustment of thought to accept the relegation of such classic drugs as camphor, muscarine and curare to a secondary position—a brief exposition in small type. The preparation of such a book is an enormous undertaking and it is not to be expected that the choice of material could meet the views of every one; the reviewer would for example like to see an account of the recent advances in our knowledge of the active principle of marihuana and some reference to the action of this drug on animals. The statement that "gold salts are now seldom used clinically" is hardly justified in view of the present interest in the use of gold salts in the therapy of arthritis, and a more extended treatment would be useful.

It is to be hoped that the large size and high cost of the volume will not discourage its use as a student textbook. It will find wide use in those institutions where pharmacology is given a place commensurate with its present day importance in the medical curriculum.

Contributions to Embryology. Volume XXVIII, Nos. 170 to 178. Carnegie Institution of Washington Publication No. 518. Paper. Price, \$4. Pp. 451, with illustrations. Washington, D. C., 1940.

The current volume of the *Contributions to Embryology*, which was unfortunately delayed in publication, contains a wealth of valuable material for students of reproduction and development. A. H. Schultz reports a study of growth and skeletal changes in more than a hundred chimpanzees from the late fetal to the mature stages. E. H. Boyden's painstaking analysis of a ten and twelve somite human embryo leads to valuable quantitative conclusions with regard to the relative volumes of different portions of the embryo at this time and to the enormous rapidity with which growth changes occur. Other interesting studies are those of Long on the in vitro growth of ovarian germinal epithelium, Fitzgerald on the bilaterally symmetrical defects of

the cerebral cortex in a human infant, and Cuajunco on the development of neuromuscular spindles in human fetuses.

The monographs of Hines and Boynton and of Markee will undoubtedly become classic contributions to their respective fields. Hines and Boynton have in comprehensive fashion studied the maturation of "excitability" in the precentral gyrus of the rhesus monkey in specimens ranging from sixty-six days' gestation to one year of life. They discriminate between idiokinetic responses to stimulation, which approach those elicitable from homologous points in the adult motor cortex, and holokinetic responses which lack discreteness or topographic localization. Holokinetic responses are the only movements obtained in fetuses of sixty-six to one hundred and twenty-five days' gestation. From one hundred and thirty-five days' gestation age to the end of the first year of life there is a gradual replacement of holokinetic and silent points by idiokinetic points, which represent the adult type of topographic projection. The paper of J. E. Markee will be of singular interest to gynecologists as well as to all those workers who have dealt with the mechanism of menstruation. Markee has studied the changes in bits of endometrium transplanted to the eye of the rhesus monkey for more than four hundred and thirty-two menstrual cycles. In addition to data as to growth changes, he contributes a detailed account of the events that precede and accompany menstruation. Some of the high lights of his study are as follows: All menstrual flows are preceded by periods of regression, in which the size of the transplant may decrease by more than half. A slow regression without menstrual bleeding may terminate some cycles of growth. The mechanism is the same in anovulatory as in ovulatory cycles. Crystalline estrogen inserted into the anterior chamber before an expected flow may prevent bleeding from the transplant, although it occurs from the uterus. This and other experiments indicate that the mechanism of menstruation is essentially a local one involving the vascular bed, particularly the coiled arteries. Markee proposes a purely physical theory of menstruation based on the increased coiling of the arteries brought about by regression. His paper represents a fundamental contribution to the body of knowledge which will have to be acquired before any rational control of different types of uterine bleeding becomes possible.

Blood Pressure Study, 1939. Compiled and Published by the Actuarial Society of America and the Association of Life Insurance Medical Directors, New York. Cloth. Pp. 69. New York, 1940.

This report covers the period 1925-1937. It follows a similar report entitled *Blood Pressure*, which appeared in 1925. A classification of the data is followed by tables of correlations between expected deaths and recorded illness. The customary correlation between high blood pressure and most illnesses is noted. Suicide, however, shows a reverse correlation. It is persons with low blood pressure who commit suicide most frequently. This is stated to be new and is worthy of more detailed report as follows: It was found that fairly high systolic pressure (143 to 177) with low diastolic (54 to 83) give the lowest suicide ratio, i. e. 75 per cent of the expected rate. Evidently a fairly high blood pressure is good for something. It is best in this regard when the diastolic pressure is low. This association of low systolic pressures with increased suicide rates increases with the rise of the diastolic and a decrease of pulse pressure. A combination of low systolic with high diastolic pressure is therefore the worst of all with reference to suicide. The ratio for suicide for this group is 72 per cent worse than the most favorable blood pressure status cited, i. e. the high systolic-low diastolic group. This correlation of suicide with low systolic pressure does not add validity to recently current opinions that low systolic blood pressures are "normal," "ideal," "a fortunate occurrence." This present opinion of low blood pressure is perhaps a salutary but somewhat too ample reaction against the former general opinion that low blood pressure was a "disease" and must be treated. The report reflects the most common and serious deficiency in blood pressure methods and statistics, i. e. the failure to record the standing and horizontal blood pressure. The difference between the two, which may be as great as 50 to 100 mm., is therefore not noted. This difference, "orthostatic hypotension," has an increasing claim to clinical and statistical notice. It might explain the suicide ratio. Large scale statistical

data such as the life insurance companies might gather on this point would be welcomed. Otherwise the value of this publication is documentary rather than clinical.

Surgical Anatomy of the Head and Neck. By John Finch Barnhill, M.D., F.A.C.S., LL.D., and William J. Mellinger, M.D., Associate Professor of Anatomy, University of Southern California School of Medicine, Los Angeles. Introduction by Paul S. McKibben, Professor of Anatomy in the School of Medicine, University of Southern California. Second edition. Cloth. Price, \$15. Pp. 773, with 431 illustrations. Baltimore: William Wood & Company, 1940.

This work, while useful for ophthalmologists, head surgeons and others, is primarily intended for the nose and throat specialist. The illustrations are chiefly anatomic in character. The material discussed is immensely varied and detailed. To obtain a similar review of the area covered would require numerous textbooks and a great expenditure of time and energy. A welcome addition to the library of the otolaryngologist, this work is in line with all those efforts of the specialty to improve itself in the last quarter century. It is an expression of the same foresight and energy which produced the American Board of Otolaryngology, made the Academy of Ophthalmology and Otolaryngology the great force for good which it is, and called into being the important postgraduate courses in the ear, nose and throat at various of our best medical schools. Its virtues, if anything, have increased in this edition. Its defects, if it has any, are of minor importance. It can be read from cover to cover, in or out of the dissecting room; it can be opened at almost any place for a few minutes browsing or consulted for some special anatomic point or surgical or anesthetic procedure, and for all of these this single volume can be fairly said to be without peer.

The Attractive Child: The Care and Development of Your Child's Beauty. By Constance J. Foster. Foreword by Angelo Patri. Cloth. Price, \$2.75. Pp. 338. New York: Julian Messner, Inc., 1941.

This is a book about health disguised as a book about beauty. The book is in three parts, of which the first, entitled "Handsome Is as Mother Does," contains chapters on good looks from various points of view. In this section the emphasis on beauty is somewhat overdone, especially in the opening paragraphs when the old proverb "Handsome is as handsome does" is designated a "hoary old chestnut." Nevertheless there are plenty of useful hints and a great deal of valuable information in these chapters, even though the meticulous reviewer might find some grounds for criticizing certain statements.

Section two, entitled "The Doctor Says!" deals with eyes, ears, teeth, skin, foot health, allergy, immunizations, endocrine glands and chemotherapy. This is a concisely written and sufficiently comprehensive treatment of these topics for the information of the parents who will most probably use this book.

Section three, entitled "New Departures," contains chapters on posture and body mechanics, growth, nervous tics, stuttering, the child's popularity, cultivating a pleasant voice, reconstructive surgery, the handicapped child, and a closing chapter indicating that no matter how valuable the contents of the "package" it probably will not make much appeal to the observer unless it is attractively "dressed."

One of the best chapters in the book is that entitled "Do People Like Your Child?" This chapter goes far to suggest that the rejection of the "Handsome is as handsome does" theory in the first chapter was not as total as it appeared.

This is a book that grows on the reader. The first impression, perhaps because of the great emphasis on beauty, is less favorable than is the estimate of the book as a whole when it has been carefully read through and evaluated.

Human Nature in the Light of Psychopathology. By Kurt Goldstein. The William James Lectures Delivered at Harvard University 1937-1938. Cloth. Price, \$2.50. Pp. 258. Cambridge: Harvard University Press; London: Oxford University Press, 1940.

This work is a modified and shorter version of the author's point of view previously published in English under the title of *The Organism*. Goldstein is essentially a psychologist of the gestalt school who has utilized the clinical material of organic brain lesions, especially those produced by war wounds. Like many other investigators, Goldstein finds that abstract behaviors which constitute the highest capacity of the human mind are first affected in brain lesions, especially those of the frontal lobes. Anxiety is a reaction to inner catastrophe and

forces the individual to make other use of his existing or remaining capacities. The author rejects the concept of inner drives or forces and correspondingly unconscious dynamic forces and childhood genesis to contemporary conflicts. In refuting psychoanalysis the author quotes Karen Horney, who has long since shown her own misconceptions of dynamic psychology. After the denial of drives, Goldstein is forced to postulate "that the only drive or basic tendency of the organism is to actualize itself according to its potentialities in the highest possible degree." The only conclusion open to the reviewer is that Goldstein is a "neobehaviorist" whose confused mixture of analytic methods and holistic concepts lead him into a philosophy which he extends from the individual to social phenomena. The work, however is interesting.

Recent Advances in Endocrinology. By A. T. Cameron, M.A., D.Sc., F.I.C., Professor of Biochemistry, Faculty of Medicine, University of Manitoba, Winnipeg. Fourth edition. Cloth. Price, \$5. Pp. 432, with 67 illustrations. Philadelphia: Blakiston Company, 1940.

There is no reason to criticize the author for an important defect in this book, since it is manifestly impossible for any one person to survey adequately the literature covering three years of intensive investigation in the field. The material included is sound, attractively presented and judiciously evaluated. Nevertheless it is not a complete review, a fact which the author acknowledges in the preface to the fourth edition. The last chapter, on endocrine interrelationships, is especially inadequate, since it largely disregards the many developments of the past five years in what has come to be designated psychosomatic relations or psychobiology. The bibliography for the chapter on the parathyroid glands should be revised more completely, as it apparently contains many items no longer referred to in the text. The book is less extensive than the third edition by nearly thirty pages but in general follows the same style and arrangement.

The Endocrine Function of Iodine. By William Thomas Salter, Assistant Professor of Medicine, Harvard Medical School, Boston. Cloth. Price, \$3.50. Pp. 351, with 40 illustrations. Cambridge: Harvard University Press; London: Oxford University Press, 1940.

The author of this monograph presents the endocrine function of iodine authoritatively. In addition to the role of free iodine and iodine-containing compounds, the relationship of the various glands of internal secretion to the thyroid gland from the point of view of fundamental biochemistry and physiology is discussed. The book contains some of the most recent contributions to our knowledge of iodine as obtained by using radioactive iodine. The physician will be especially interested in the chapter on clinical problems, in which are included representative case histories and the common problems of diagnosis and therapeutics. Another chapter of special interest to the physician is the one on the relationship between the thyroid and the nervous system. The appendix describes in detail the various technical procedures for the analysis of iodine and iodine compounds in various fluids and tissues. This appendix is a useful reference for the laboratory technician.

Nineteenth Hospital Yearbook. 1941 Hospital Purchasing File: Directory of Products, Manufacturers' Catalogs, Remodeling and Other Reference Data. Boards. Price, \$2.50. Pp. 1,028, with illustrations. Chicago: Modern Hospital Publishing Company, Inc., 1941.

This issue contains the usual advertising and listing of all types of supplies and furnishings used by hospitals. This department should be of assistance to purchasers. In addition, there is a selection of contributed articles by leading hospital administrators. They begin with the fundamentals of hospital service by Dr. S. S. Goldwater. Among the other subjects ably discussed are hospital organization, architecture, operating suite and other departments, tuberculosis units, modernization, air conditioning and lighting.

Syphilis in Earlier Days. By J. R. Whitwell, M.B. Cloth. Price, 5s. Pp. 89. London: H. K. Lewis & Co., Ltd., 1940.

The author's thesis is an attempt to disprove the theory that syphilis is a disease of the New World, brought back to Europe by Columbus's men. Evidence is brought forth that syphilis existed in France, Spain, Naples and elsewhere before Columbus returned from his voyage. The evidence is based on a description of the disease by writers of various ages under different names. The author shows that nearly every country considered syphilis a disease that was transported from somewhere else.

Queries and Minor Notes

THE ANSWERS HERE PUBLISHED HAVE BEEN PREPARED BY COMPETENT AUTHORITIES. THEY DO NOT, HOWEVER, REPRESENT THE OPINIONS OF ANY OFFICIAL BODIES UNLESS SPECIFICALLY STATED IN THE REPLY. ANONYMOUS COMMUNICATIONS AND QUERIES ON POSTAL CARDS WILL NOT BE NOTICED. EVERY LETTER MUST CONTAIN THE WRITER'S NAME AND ADDRESS, BUT THESE WILL BE OMITTED ON REQUEST.

CHEMOTHERAPY OF PNEUMONIA

To the Editor:—We are at present having some severe cases of pneumonia in this territory. We should be glad to have your opinion with regard to the use of sulfapyridine in severe cases and those which are complicated with meningitis, infections of the blood stream and bacterial endocarditis. Drs. Herrell and Brown, of Rochester, Minn., reported a number of cases of septicemia in which treatment was with large doses of sulfapyridine, bringing the level in the blood up to 12, 16 and 20 mg. per hundred cubic centimeters, with reduced mortality in this disease. We have attempted to raise the level of sulfapyridine in the blood in the treatment of our patients with severe pneumonia. Furthermore, in connection with the treatment with sulfapyridine we give continuously a high concentration of oxygen. It appears that we are able to give larger doses with a high level of sulfapyridine in the blood without severe toxic effects when a high concentration of oxygen is administered. But our few cases are not enough to justify an opinion of the effect of oxygen on the toxic effect of sulfapyridine so that we can give larger doses. However, I am anxious to learn whether some one else has used oxygen in connection with sulfapyridine with any degree of success in overcoming the toxic effects of sulfapyridine. 1. Do you think that sulfapyridine in large doses will lower the oxygen saturation of the blood? 2. If so, do you believe that inhalation of a high concentration of oxygen will raise the oxygen saturation of the blood if the saturation has been reduced by medication with sulfapyridine? 3. In a death caused by a poisonous dose of sulfapyridine, what do you think might be the direct cause of death? 4. Do you recommend in some cases giving sulfapyridine intravenously in physiologic solution of sodium chloride or dextrose solution? If so, give method of administration. 5. Is there a preparation of sulfapyridine which may be given intramuscularly? Our patients with minor pneumonia here get along all right with a level of sulfapyridine in the blood of between 4 and 6 mg., which has been recommended, but we have had some with severe pneumonia in whom the level was not effective.

T. A. Taylor, M.D., Lufkin, Texas.

ANSWER.—To answer the query satisfactorily, information as to the cause of the cases of severe pneumonia should have been given. In pneumococcic pneumonia sulfapyridine or sulfathiazole is used; for pneumonia caused by hemolytic streptococci, sulfanilamide is the drug of choice; for staphylococcic pneumonia sulfathiazole, and for pneumonia not caused by these bacteria chemotherapy is often ineffective.

In the case of complications of meningitis, septicemia or endocarditis occurring in pneumonia, evidence shows that high levels of the appropriate drug are desirable to favor recovery. The statement that a high concentration of oxygen permits larger doses of the sulfonamides to be given more safely is of interest and should be further investigated, since other studies on this point have not been noted. Most clinicians using chemotherapy for pneumonia also give oxygen when it is indicated for cyanosis and dyspnea but not necessarily with regard to overcoming specifically the toxic effects of the drug.

In answer to the specific questions asked:

1. Sulfonamides in large doses do lower the oxygen saturation of the blood.
2. Administration of oxygen will raise the oxygen saturation of that portion of the hemoglobin not already influenced by the drugs.
3. The chief causes of death from poisoning with sulfapyridine are (a) the syndrome associated with a sudden diminution in the number of leukocytes, (b) renal failure and (c) hepatitis.
4. This question is answered in detail in the paper referred to in the query. In certain cases in which the drug cannot be given by mouth, when there is difficulty in raising the level in the blood to the proper amount or if it is desirable to raise the level in the blood quickly, the soluble sodium salt of sulfapyridine may be injected intravenously. After the proper dose (0.06 Gm. per kilogram of body weight) has been calculated, a 5 per cent solution of sodium sulfapyridine in distilled water may be injected intravenously at the rate of 5 cc. a minute. Five Gm. may be given in a single dose. Additional doses may be given at intervals of six to eight hours to maintain the desired amount in the blood. Distilled water as a solvent is said to be preferable to physiologic solution of sodium chloride or dextrose solution.

5. Although many advise against the intramuscular injection of sodium sulfapyridine, it has been safely given either subcutaneously or intramuscularly in 0.3 to 0.7 per cent solution in physiologic solution of sodium chloride. Doses of 200 cc. may be given every six hours.

One wonders what is meant by patients with "minor pneumonia." In the past few years there have occurred many cases

of a mild form of pneumonia not caused by bacteria and apparently caused by filtrable viruses. Chemotherapy has no value in such cases and should not be used. The rate of mortality is negligible. Chemotherapy should not be applied to every patient who has fever and evidence of pulmonary involvement, since it is known to be of value only in pneumonias caused by pneumococci, hemolytic streptococci and perhaps staphylococci.

CENTRAL NERVOUS SYSTEM SYPHILIS

To the Editor:—A man aged 46, an assistant superintendent, came under my care on Nov. 4, 1938. He complained of "feet going to sleep," absent mindedness, nervousness and occipital headache. He presented unequal pupils and absent knee jerks. A Wassermann test revealed a 4 plus reaction. He received continuous treatment at weekly intervals of fourteen bismuth salicylate (1 cc.) injections. This was followed by nine neosarsphenamine treatments of 0.6 Gm. The Wassermann test of the blood again showed 4 plus. This was in March 1939. The spinal fluid report in March 1939 revealed globulin 1 plus, spinal fluid Wassermann reaction 4 plus, colloidal gold test 5555543210. He was given at weekly intervals twenty-six trypanamide injections of 3 Gm. each. This course was followed by an additional twelve bismuth salicylate injections of 1 cc. He feels like a new man under this therapy and has remained at his job all this time. He is anxious to discontinue treatment. Has he been adequately treated and can treatment be stopped with safety? If treatment is stopped would the symptoms reappear? Would the spinal fluid show any changes if taken now? He has refused further therapy because he has done so well on that already given. Are there any other recommendations?

Irving S. Snow, M.D., New York.

ANSWER.—For a patient with the so-called malignant or paretic type of spinal fluid plus a group of symptoms suggesting involvement of the central nervous system of this type it would ordinarily be inadvisable to stop treatment, first, because of insufficient amount of treatment for a spinal fluid of this type and secondly because the spinal fluid has not been reexamined recently enough to determine just what effect treatment has had up to this time. The fact that the patient has clinically improved is a favorable prognostic sign, but it does not of necessity mean that the spinal fluid has shown a similar degree of improvement. With treatment stopped the probabilities are that the symptoms will reappear within a year or so in more pronounced and decidedly more advanced form than at the present time. If the reexamination of the spinal fluid still shows the paretic characteristics, the patient may be urged to continue with trypanamide and preparations of bismuth or undergo a fever course, even in spite of the fact that he is clinically feeling well.

STAPHYLOCOCCIC SEPTICEMIA AFTER CARBUNCLE AND INJURY

To the Editor:—In October 1939 I treated for a period of approximately three weeks a patient with a mashed toe, with an infection of soft tissues. Roentgen examination revealed that there was no fracture. There was no lymphangitis or spreading of the infection. The patient continued working at all times. After discharge by me, he came back about a month later and received three more dressings, the condition cleared up and I heard nothing further from him until seven months later, when he sustained a sprain of the hip on the side opposite the original injury to the toe. Three days later he manifested symptoms of a severe infection, which turned out to be staphylococcic septicemia with a possible subphrenic abscess. (One month previously he had been treated by a physician for a carbuncle on the right shoulder, and when I saw him for the sprained hip the carbuncle had not healed and was still draining.) Now comes the question as to the cause of the staphylococcic septicemia. I should appreciate references to any article in this direction. The question has been raised as to whether the patient received a staphylococcic infection at the time of the injury to the toe and this infection remained dormant for several months. However, I have seen numerous mashed toes of this type, and I do not make cultures of the discharge; at the same time, this is the first case of mashed toe I have ever seen in which it is alleged that a staphylococcic septicemia has resulted from the injury at a period seven months later.

S. M. Becker, M.D., Washington, D. C.

ANSWER.—It would seem virtually impossible that the staphylococcic septicemia in this case could be in any way related to the injury to the toe incurred seven months previously. By far the most likely explanation is that the carbuncle was the source of the staphylococcic septicemia. The sprain or injury to the hip probably acted as a focus of lowered resistance at which some of the organisms, circulating in the blood stream from the carbuncle, collected and from there poured into the blood stream to cause the staphylococcic septicemia. It is not impossible that direct injury to the carbuncle may have occurred at the time of the injury to the hip causing the staphylococcic septicemia.

Usually a secondary infection of this kind manifests itself as a metastatic abscess rather than as an infection of the blood stream. Three cases were cited by Frederick Christopher (Minor Surgery, ed. 4, Philadelphia, W. B. Saunders Company, 1940). In the first case a large abscess developed beneath the sternocleidomastoid muscle after an injury; at the same time the patient was suffering from a furuncle of the elbow.

In the second case there was an infected wound of the hand following a fall off a bicycle, and an abscess developed beneath the pectoralis muscle. The pus was found to contain hemolytic streptococci.

In the third case the abscess occurred in the calf of the leg after a boil on the chin. Christopher cited Santee (*Ann. Surg.* 89:772 [May] 1929), who reported 4 cases of metastatic abscess complicated with pneumonia. The first abscess was at the site of the hypodermic injection, the second was subpectoral, the third was over the rectus muscle and the fourth was on the dorsum of the foot.

ELECTRICAL SHOCK THERAPY

To the Editor:—Does psychiatric literature report electrical shock procedures for the treatment of mental disorders? Would it be possible to produce epileptiform attacks by stimulation of the motor area of the brain? Could this area be isolated and stimulated through the skin? Should alternating or continuous currents be used and in what strength and in what arrangement? What would be the dangers, contraindications and possible death limit? These questions, which I asked, were answered in *Queries and Minor Notes* in the issue of June 17, 1939, under the heading "Electrical Stimulation of Brain" in the following manner: "There is no electrical shock procedure for mental disturbances. Epileptic attacks can be produced by stimulating the motor area of the brain, but only when the brain is exposed; this is done only for localizing purposes at the time of operation. With the skull intact, this cannot be done with any degree of safety." Since electrical shock therapy has become, in the meantime, an established therapeutic procedure, I would appreciate a further discussion.

Ernst Fantl, M.D., Beacon, N. Y.

ANSWER.—Electrical shock therapy is now employed in this country as well as in Italy and England and has been tried in Germany. Dr. S. E. Barrera and Dr. Kalinowsky of the Psychiatric Institute of New York, and Dr. Richard Lyman and Dr. Hans Loewenbach at the Duke University, Durham, N. C., are among those doing active electrical therapy at the present time.

In general, alternating current is used without changing the type of current but is put through an induction transformer and a roentgen ray timer in order to control voltage and time of exposure. Voltage is run from 70 to 120 and is timed from $\frac{1}{10}$ to $\frac{1}{2}$ second, as a rule. The electrodes are placed on the temples so as to expose purposely the precentral and frontal regions to a greater extent and to avoid posterior vital centers. It is still unknown as to the exact amount of stimulation which goes to specific parts in the brain.

TREATMENT OF SYPHILIS

To the Editor:—A man aged 30 came for continuation of antisyphilitic therapy, which had been begun by another physician in his home town. Therapy was begun early, as soon as penile chancre developed and diagnosis was confirmed by dark field examination. The patient had mapharsen and bismocymol twice a week for four weeks and then once a week to six weeks. His physician then started him on mercurosal 0.06 to 0.08 Gm. intravenously once a week. At that time he told the patient that, if no secondary lesions developed, treatment could be stopped at three to five months. The patient told me this, which I could not assent to. I told him that as far I knew there were only two methods which had any scientific and proved worth today: the new and as yet experimental five-day treatment, and the conventional year to year and a half or two year "alternating block" method. The patient is cooperative and eager for cure and does not wish to take any risks or half measures in obtaining cure. I told him that I would seek authoritative opinion on the subject. I notice that Moore, in discussing Padgett's paper in *The Journal*, says that, even with a few arsenphenamine treatments early in the disease, patients can be maintained in perfect health as far as syphilis is concerned to the proportion of about 80 per cent. However, with 95 per cent "cure" possibilities by the conventional methods, I feel that this patient would be making a grave mistake in stopping treatment at even six months. Am I not correct? Even though he had somewhat intensified treatment the first six weeks, this is not sufficient reason for discarding the conventional one and a half year method, is it? Further: Is mercurosal as good as or better than the bismuth salts? The patient had bloody diarrhea after his last mercurial injection, which to my mind should certainly contraindicate further mercury administration.

M.D., Ohio.

ANSWER.—The inquirer is correct in believing (a) that the patient described should continue conventional antisyphilitic treatment to a total of eighteen months and (b) that the so-called five day treatment is inapplicable in the present situation.

As to the former point, only the first course of mapharsen and bismuth may be counted on in evaluating the present prospect of "cure" without additional treatment. From this course alone there is perhaps a 65 per cent chance of "cure." Since this may be improved to 95 per cent with the additional treatment recommended by the inquirer, it would be folly not to continue.

There is no information as to the applicability of the so-called five day treatment for patients who have been started on and received a considerable amount of standard treatment. Moreover, the risk of the serious reaction of hemorrhagic encephalitis

is from seventy to two hundred times greater with the five day treatment than with standard treatment, and the applicability of the method under any circumstances is, as the inquirer properly suggests, entirely experimental.

There is good reason for believing that no mercury preparation is as satisfactory as bismuth in the treatment of early syphilis, and there is particularly good reason for believing that the intravenous administration of any bismuth or mercury preparation at weekly intervals is entirely unsatisfactory. It is suggested therefore that the use of mercurosal be discontinued permanently and that treatment be carried on by the continuous method with alternating courses of a trivalent arsenical and with an insoluble or oil soluble bismuth salt.

The inquirer does not mention the results of spinal fluid examination, which should be carried out at about the sixth month of treatment, and the type and amount of further treatment conditioned by the results.

UNILATERAL BREAST ATROPHY AND PRECORDIAL PAIN

To the Editor:—An unmarried white woman aged 23 complains of complete failure of development of the left breast and severe precordial pain coming on without exertion. The latter condition has been occurring frequently during the last five years. The pain lasts from fifteen seconds to ten minutes. The relevant past history reveals ankle edema five years ago, none since. There has been edema of the lower lids for the past five months. There is marked dysmenorrhea and nausea, with heavy flow during the first day. The right breast is well developed and normal; the left breast area shows complete absence of any breast tissue but a normal nipple and areola. There is an irregular area of light brown pigmentation on the left side corresponding to the right breast area but extending below the lowest rib. Other physical findings are within normal limits. The Wassermann reaction is negative. 1. What can be done to develop the left breast? 2. What is the possible relationship of the precordial pain to the undeveloped breast? 3. What can be done for the precordial pain?

Frank F. Becker, M.D., Hawthorne, N. J.

ANSWER.—1. There is little likelihood that this anomalous breast will develop and there is no method of treatment that will bring this about.

2. There does not seem to be any reasonable relationship between the precordial pain and the undeveloped breast.

3. There are numerous conditions capable of producing thoracic pain, such as a fibromyositis of the intercostal muscles or intercostal neuritis. At times even an arthritis of the thoracic spine may produce anterior thoracic pain. Therefore, the treatment of the condition is dependent on identifying its true causation.

UTERINE INERTIA AND ESTROGENIC DEFICIENCY

To the Editor:—A white woman aged 32 has been under my care for two years, having clinical evidence of estrogenic deficiency, such as tingling in the breasts and menstrual irregularities, all of which have responded to theelin therapy. She has recently finished a pregnancy. Two hours after delivery she developed a uterine inertia. Is there any association between the uterine inertia and estrogenic deficiency? If so, I will appreciate any information.

M.D., Texas.

ANSWER.—Tingling in the breasts is usually evidence of theelin activity on the breasts. It is possible that the occurrence of uterine inertia two hours after labor might be due to prolonged labor and exhaustion of the patient or to various other conditions which might lower the patient's vitality. As the body was recently flooded with estrogens, it does not appear that the uterine inertia was due to a deficiency of estrogens. If estrogenic hormone were present in appreciable amounts post partum, lactation would not occur. The most potent endocrine product that could be given a patient for uterine inertia post partum would be small doses of posterior pituitary four to six hours for twenty-four to forty-eight hours, if necessary. Ergot or ergotamine tartrate have also been used for this condition. If the infant is nursing, it would be inadvisable to give the mother estrogenic substance, since that may inhibit lactation.

MYOEDEMA

To the Editor:—The description of the physical phenomenon of "mounding" given by T. P. Sears in his question to *Queries and Minor Notes* (*The Journal*, March 1, 1941, p. 904) far more strongly suggests the condition myoedema (or myo-edema) than the myotatic irritability seen in certain neuromuscular dystrophies. Norris and Landis (*Diseases of the Chest*, ed. 6, Philadelphia, W. B. Saunders Company, 1938, p. 415) defined myoedema as "a local contraction of the muscle, produced by direct percussion and causing a nodular swelling, which rises immediately after percussion, lasts a second or two and then gradually disappears." Although this phenomenon is commonly encountered in tuberculosis, it is not peculiar to the disease. It may also be seen in any severe cachexia, of whatever origin. Incidentally, the term "mounding" is given as a synonym of myoedema in the *American Illustrated Medical Dictionary*.

Philip M. Gottlieb, M.D., Philadelphia.

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ROENTGEN THERAPY FOR RHEUMATIC DISEASE

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The use of the roentgen ray in the treatment of rheumatic diseases is not new. Soon after the therapeutic employment of roentgen rays in the field of medicine, reports of their effect on diseases of the joints began to appear. In 1898 Sokolow¹ reported improvement of 4 patients with arthritis he had treated with roentgen radiation. Stenbeck² (1898) treated 52 patients, most of whom he said were "improved." For the following twenty-five years numerous reports dealing with this subject appeared scattered in the literature.

Increased interest in this form of therapy developed about 1925 when Staunig³ reported generally good results from treatment of 400 patients with arthritis deformans, and Kohler⁴ stated that considerable improvement had occurred in 100 patients with arthritis deformans and spondylitis. In the following year Kreuzwald⁵ discussed his experience in treating 100 patients, of whom 87 per cent were said to be considerably improved (subjectively). Von Pannewitz⁶ reported results of the treatment of more than fifteen hundred joints of patients with arthritis deformans chiefly and of treating animals in whose joints were produced lesions said by him to be characteristic of human arthritis deformans. Results were favorable in the majority of cases. Also in 1927, Kraus⁷ published results of treatment of 285 patients with arthritis.

Kahlmeter⁸ has had the largest experience with roentgen therapy. From 1925 to 1937 he treated about 5,000 patients with various kinds of rheumatic disease. In many cases of acute arthritis (gonococcic, gouty and septic) and different types of acute nonarticular rheu-

matism he stated that his results were excellent. In chronic polyarthritis (rheumatoid) he admitted difficulty in evaluating results but thought that the effect was better in patients with more acute polyarthritis, especially those with recent periarticular swelling causing pain.

Scott⁹ has written numerous reports of roentgen treatment for many different diseases, including rheumatic diseases, and has emphasized the excellent results he has obtained in cases of spondylitis "adolescens" (rhizomélisque), in which he gave "wide field" superficial irradiation.

Most of the study in the field of roentgen therapy has been by European investigators. The first American report appeared in 1906, by Anders, Daland and Pfahler,¹⁰ who treated only 2 patients with chronic arthritis. Langer¹¹ (1933) reviewed his results in treatment of 363 patients—65 with atrophic arthritis and 138 with hypertrophic arthritis. In 1935 Garland¹² reported generally good results in the treatment of different types of arthritis—chiefly acute infectious types.

Because of the excellent results claimed by practically every author reporting experiences with roentgen treatment, the paucity of study of this subject by Americans and the suggestions of roentgenologists such as that of Desjardins¹³ that roentgen therapy be used more extensively for rheumatic diseases, we were stimulated to make a critical evaluation of this form of therapy in various rheumatic diseases, especially rheumatoid arthritis, about which there is the least definite information recorded.

METHOD OF STUDY

Only those patients whom we personally studied in great detail in the Rackham Arthritis Research Unit were included in this study. Except for the patients with spondylitis and some localized nonarticular rheumatism (tenosynovitis, bursitis), practically all patients selected for this study had comparable involvement in pairs of joints. In these persons, one of the pair of joints involved would be treated with roentgen radiation and one would be left untreated to serve as a control in order better to evaluate the therapeutic effects. Usually the only other treatment instituted was of a general nature: rest, salicylates, antianemic therapy and heat and exercises to all joints alike between roentgen treatments. In a few instances other forms of physical therapy were applied to the joints not treated with roentgen rays, in order to contrast results.

Read at the seventh annual meeting of the American Rheumatism Association, New York, June 10, 1940.

From the Rackham Arthritis Research Unit and the Department of Roentgenology, Division of Radiation Therapy, University of Michigan Medical School. The Rackham Arthritis Research Unit is supported by the Horace H. Rackham School of Graduate Studies of the University of Michigan.

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On all patients the same technic of roentgen therapy was employed. Physical factors: 200 kilovolts (175 kilovolts constant potential equivalent); 0.5 mm. of copper and 1 mm. of aluminum filtration; 50 cm. skin-target distance; minute output of 50 roentgens (measured in air); usual size of field approximately 15 by

TABLE 1.—Patients with Rheumatic Diseases Treated by Roentgen Radiation

	Number of Cases
Rheumatoid arthritis.....	74
Spondylitis rhizomelique.....	15
Nonarticular rheumatism.....	7
Hypertrophic arthritis.....	4
Total.....	100

15 cm. Dose: each field was treated three times, receiving 200 roentgens at each sitting; the treatments were given every other day; the total dose was thus 600 roentgens. Such therapy hereafter will be referred to as "a series of treatments." Most patients were given three series of treatments to the same parts, each series being separated by four to six weeks. The number of joints treated in any series varied from one to six. In some cases new parts were treated after three or more series had been given to the original locations.

In order to study the psychic effect that might be associated with roentgen therapy, some patients were treated exactly as described but with a lead screen placed to protect the part from irradiation. Sometimes treatment screened by lead was employed between series of true roentgen treatment to the same joints; sometimes the first one or two series of treatments given were blocked with lead screens, and subsequently the parts were treated with roentgen therapy. In still other patients, some joints would be treated in the usual manner, and simultaneously comparable joints would be treated but screened with lead. Care was

TABLE 2.—Clinical Results of Roentgen Therapy in 57 Cases of Rheumatoid Arthritis

Clinical Evidence of Benefit		Number of Cases	Percentage
Subjective	Objective		
None	None.....	25	44
Slight, temporary *	None.....	7 (3-P)†	12
Slight	None.....	1	2
+ temporary	None.....	4	7
++ temporary	None.....	2	3
+++ temporary	None.....	1 (1-P)	2
+++	None.....	2	3
Total.....		42	74
Slight, temporary	Slight, temporary	1 (P)	2
Slight	Slight	2	3
+ temporary	Slight, temporary	3	5
Slight	Slight	1	2
+	+	2 (1-P)	3
++	++	4	7
+++	+++	1	2
Total.....		15	26

* Temporary, less than one month.
† P, in only some of the joints treated.

taken that the patient did not know that such screened joints were not actually irradiated.

Most of the patients studied had a chronic rheumatic condition, and all of these had been under observation long enough to know that they were in a "steady state," the disease not changing in any essential degree when roentgen therapy was employed. As has been empha-

sized by Abrams and Bauer,¹⁴ this is important if one is to evaluate accurately the effects of any type of therapy.

During the course of treatment and throughout the subsequent period of observation, all patients were interviewed frequently. Questions that were in no way leading were asked in order to learn the subjective response; careful examinations were made frequently by the same physician to detect physical changes, especially in regard to the joints; photographs were taken at intervals; frequent erythrocyte sedimentation rate determinations were made by the Rourke-Ernstene¹⁵ technic; in many cases roentgenograms of joints were compared before and after treatment; in some cases a study was made of the cell content of synovial fluid aspirated simultaneously from treated and comparable untreated joints before and several times during the course of therapy; in a few cases histologic examination

TABLE 3.—Psychic Effect of Roentgen Therapy in Rheumatoid Arthritis

Patient	Subjective Benefit		Objective Benefit	
	Without Lead	With Lead Screen	Without Lead	With Lead Screen
Patients with Same Joints Treated Screened and Unscreened				
B. B.....	++	++	++	++
B. S.*.....	+	Slight	0	0
A. P.*.....	++	0	0	0
L. V.....	0	0	0	0
B. W.*.....	+	0	0	0
E. D.....	+	+	0	0
Comparable Joints Treated Simultaneously				
F. M.....	++	++	++	++
H. R.....	++	++	Slight	Slight
S. K.....	++	++	++	++
M. O.....	0	+	Slight	Slight
M. K.....	+	++	+	++
C. F.....	++	++	0	0
M. C.....	Slight	+	0	0
C. H.....	+	++	+	+
M. S.....	0	Slight	0	0

* Roentgen therapy better than lead-screened (psychic) therapy.

was made of synovium and joint capsule obtained after treatment.

In evaluating the effect of roentgen therapy, changes in treated and similarly diseased untreated joints were compared. Clinical results were considered from the subjective and the objective standpoint and were graded none, slight, one, two, three and four plus, to indicate an increasing amount of improvement.

RESULTS

One hundred patients with different types of rheumatic diseases were studied (table 1). In all two hundred and ninety-three joints¹⁶ were irradiated; in so doing seven hundred and ninety-eight separate applications of roentgen rays were given. Most of the patients were observed for at least six months after therapy was begun. Ten patients were studied less than three months and 14 from three to six months. The majority of patients in these two groups were being studied with lead screen control for psychic effect. Forty-nine patients were carefully studied for from six to twelve months, and 23 for from twelve to eighteen months; 4 were followed more than eighteen months.

14. Abrams, N. R., and Bauer, Walter: The Treatment of Rheumatoid Arthritis with Large Doses of Vitamin D, *J. A. M. A.* 111: 1632-1639 (Oct. 29) 1938.

15. Rourke, M. D., and Ernstene, A. C.: A Method for Correcting the Erythrocyte Sedimentation Rate for Variations in the Cell Volume Percentage of Blood, *J. Clin. Investigation* 8: 545-559 (June) 1930.

16. The hand and foot and the cervical, dorsal, lumbar and sacral portions of the spine are considered in this study as a single joint.

Clinical Results in Rheumatoid Arthritis.—The clinical results of roentgen therapy in 57 patients with characteristic rheumatoid arthritis, in various stages of the disease, always with active synovitis, are summarized in detail in table 2. It should be noted that 44 per cent of these patients had no benefit from roentgen treatment, and in 74 per cent there was no objective evidence of improvement. Of the 26 per cent in whom objective evidence of benefit occurred it was of significant grade in only 14 per cent. In 21 per cent of the group the subjective improvement, which was the only benefit noted, lasted for less than one month, and temporary improvement (lasting less than one month) of subjective and objective nature occurred in 5 per cent of patients. In some persons benefit was noted in only some of the joints irradiated.

The clinical results were carefully examined in respect to various differences in the patients and the disease. No correlation was found between clinical results and (1) the age of the patient, (2) the duration of symptoms of arthritis or (3) the activity of the disease as determined by local signs, leukocytosis, fever and sedimentation rate of erythrocytes. In regard to the extent of the arthritic involvement (number of joints affected) there was no correlation—except that in 3

appear in table 5. Here the effect appears to be decidedly different from that in patients with rheumatoid arthritis of peripheral joints. Definite subjective and objective evidence of benefit was noted in 74 per cent of the cases and was certainly of significant degree, and not just temporary, in 67 per cent. Naturally, in

TABLE 5.—Clinical Results in 15 Patients with Spondylitis Rhizomélisque Treated with Roentgen Therapy

Clinical Evidence of Benefit		Number of Cases	Percentage
Subjective	Objective		
None	None	2	13
++	None	2	13
Total.....		4	26
Slight	+	1	7
+	+	3	20
++	+	2	13
+++*	+	1	7
++	++	3	20
+++ (complete)*	+++ (complete)	1	7
Total.....		11	74

* Clinically characteristic cases (not proved) of short duration.

those patients with extensive calcification of ligaments, great improvement of motion of the affected parts could not be expected, but we were surprised and pleased to observe increase of significant degree in motion of the back, often when pain decreased.

Clinical Results in Nonarticular Rheumatism and in Degenerative Disease of Joints (Hypertrophic Arthritis).—Eight patients with various types of nonarticular rheumatism were treated. The results are summarized in table 6. Two patients had peri-arthritis of the shoulders; the duration, extent and severity of involvement were comparable in the two, as far as could be determined. One patient reported no benefit; the other reported moderate clinical improvement—but improvement occurred equally in the treated and screened shoulder, indicating only psychic effect. In 1 patient with calcified subdeltoid bursitis with symptoms for only four months there was moderate symptomatic improvement and increased ease and range of motion. Roentgenograms three months after therapy showed a decrease in the size of calcification in the bursa. In 1

TABLE 6.—Clinical Results Following Roentgen Therapy in Eight Cases of Nonarticular Rheumatism

Patient	Diagnosis	Subjective Benefit		Objective Benefit	
		Without Lead	With Lead Screen	Without Lead	With Lead Screen
H. P.	Peri-arthritis of shoulder...	0	..	0	..
J. K.	Acute fibrositis of shoulders and hands.....	++	++	++	++
M. M.	Calcified subdeltoid bursitis	++	..	++	..
D. B.	Fibrositis of hands.....	+	+	0	0
L. R.	Achillobursitis.....	++	..	++	..
G. O.	Achillobursitis*.....	+++	++	0	0
B. B.†	Achillobursitis.....	0	..	0	..
E. R.	Tenosynovitis and fasciitis	0	..	0	..

* Roentgen therapy better than lead-screened (psychic) therapy.
† Treated for rheumatoid arthritis also, without benefit.

TABLE 4.—Frequency of Exacerbations of Inflammation in Treated Joints Following Roentgen Therapy

Number of Cases	Months After Last Treatment
1	1
3	2
1	3
3	5
1	
Total	9 (16 per cent)

cases in which only one or two joints were involved when roentgen therapy was given results were better than in the group at large. These were the patients with early or acute rheumatoid arthritis with unsatisfactory control joints (untreated) in whom remission of severe synovitis often tends to occur naturally, so that evaluation of roentgen effect is difficult.

We were impressed with the frequency of a report by the patient such as "As soon as I heard the machine working, I began to feel better." This statement was most often made by those with subjective benefit only. This suggested to us that some or all of the subjective benefit might be of psychogenic origin, and this factor was objectively studied by preventing roentgen rays from reaching the part to be treated by the use of lead screens as described. The purely psychic benefit resulting from such treatment as studied in 15 additional cases of rheumatoid arthritis is summarized in table 3. In all but 3 of the 15 cases as much benefit occurred when parts were screened as when irradiated. Thus it is clearly demonstrated that much but not necessarily all of the subjective benefit may be of psychogenic origin.

In patients with rheumatoid arthritis definite exacerbation of synovitis occurred just as frequently in joints treated with roentgen rays as in the untreated joints. As shown in table 4, such exacerbations were noted soon after treatment in 16 per cent of the cases. We interpret this to indicate that roentgen therapy as given did not protect the joints from suffering increased inflammation for even a short time.

Clinical Results in Spondylitis Rhizomélisque.—The clinical results in 15 cases of spondylitis rhizomélisque

patient with fibrositis involving each hand comparably there was only psychogenic symptomatic benefit—as shown by lead screen control in treating one hand. Each of 3 patients with achillobursitis showed different results. There was no benefit in 1 patient repeatedly treated for tenosynovitis. (Treatment was first given five weeks after the symptoms began.)

It is in this group of patients that one might expect the best and the most consistent benefit, but in our small group of patients the results were discouraging. In 2 of the 3 patients controlled by lead screens, benefits were shown to be psychogenic. The nature of the disease often does not allow comparable untreated control

TABLE 7.—Clinical Results in 4 Patients with Degenerative Disease of Joints (Hypertrophic Arthritis) Treated with Roentgen Radiation

Clinical Evidence of Benefit		Number of Cases
Subjective	Objective	
None	None.....	2
Slight, temporary	None.....	1
+	None.....	1

parts, so that the results are less dependable when critically examined.

Only 4 patients with degenerative joint disease were studied. Two had roentgen therapy to the fingers and 2 to a hip joint; in all cases opposite comparably involved joints were left untreated. The results (table 7) were poor.

Changes in the Rate of Sedimentation of Erythrocytes.—In patients with active rheumatoid arthritis and spondylitis rhizomélisque, the erythrocyte sedimentation rate is usually elevated, and reductions in rate are considered by most students of arthritis to indicate improvement in the disease process. We were able to follow the changes in erythrocyte sedimentation rate in most patients treated. The results are shown in table 8. Definite decreases in rate occurred in only 15 per cent of patients with rheumatoid arthritis. In these

TABLE 8.—Changes in Erythrocyte Sedimentation Rate Following Roentgen Therapy

	Number of Cases		Percentage
Rheumatoid arthritis (67 cases)			
Increased.....			5
No change.....			7
Decreased.....			52
	Subjective	Objective	78
Slight.....			15
2.....	0	0	
1.....	Slight	Slight	
1.....	++	0	
1.....	++	++	
Moderate.....			4
1.....	Slight	0	
1.....	+	+	
1.....	++	0	
1.....	++	++	
Great.....			1
	+++	++	
Spondylitis rhizomélisque (15 cases)			
Increased.....			0
No change.....			9
Decreased.....			60
	Subjective	Objective	40
Slight.....			0
Moderate.....			5
1.....	+	0	
1.....	++	+	
2.....	++	+	
1.....	++	++	
Great.....			1
	+++	+++	

cases the degree of fall, graded slight, moderate or severe, is correlated with the clinical results, both subjective and objective. It should be noted that in general there is no correlation, except that 2 patients with only slight decreases in sedimentation rate had no clinical improvement, and the 1 patient with great decrease in sedimentation rate showed 3 plus clinical improvement. This patient had acute rheumatoid arthritis.

Notice that there was a decrease in erythrocyte sedimentation rate in 40 per cent of patients with spondylitis rhizomélisque. Again there is no close correlation between the changes in sedimentation time and clinical results. The patient with a great reduction in sedimentation rate and 3 plus clinical improvement had clinically characteristic early spondylitis without abnormal calcification.

Changes in Roentgenographic Appearance of Treated Joints.—Sufficient roentgenograms of joints to allow a study of any changes during and following roentgen therapy were made of 30 patients with rheumatoid arthritis and 5 with spondylitis rhizomélisque (table 9). It is clearly shown that no anatomic improvement was demonstrated by roentgen rays in any case. Frequently, increased destruction or atrophy, characteristic of progression of the disease, would be noted in the treated joints as well as in the untreated. There was no correlation between changes in the roentgenograms and clinical results; not infrequently in patients who reported symptomatic improvement following roentgen therapy subsequent roentgenograms of the treated joints showed more extensive anatomic abnormalities.

Cytology of Synovial Fluid.—In 12 patients with rheumatoid arthritis synovial fluid was aspirated simul-

TABLE 9.—Changes in Roentgen Ray Appearance of Joints Following Treatment with Roentgen Radiation

	Number of Cases
Rheumatoid arthritis (30 cases)	
No change.....	17
Increased osteoporosis.....	5
Increased articular destruction.....	9*
Spondylitis rhizomélisque (5 cases)	
With ligamentous calcification	
No change.....	3
Increased calcification.....	1
Without ligamentous calcification	
No change.....	1

* One of these patients had increased osteoporosis also.

taneously from two comparable joints, usually the knees. Subsequently, one joint would be treated with roentgen radiation, the other left untreated. At intervals during and after therapy each joint was again aspirated. The cell content of the synovial fluid was studied. The results are compiled in table 10. There was a decrease in the number of cells in the fluid from treated joints only or predominantly in only 3 patients (C. J., C. M. and M. M.). In all others there was either no change or comparable changes in the fluid of the treated and of the untreated joints. There was no correlation between the cell content of synovial fluid and clinical effects of roentgen therapy.

Histologic Changes.—In 5 cases of rheumatoid arthritis we were able to examine capsular tissue removed for biopsy or during synovectomy. In no case was any change recognized as an effect of roentgen therapy.

Ill Effects.—There were no recognizable ill effects of any kind in 68 of the 100 patients treated. In some who had three or more series of treatments to the same parts there was moderate local pigmentation and depilation, commonly seen after irradiation. Sometimes thickening of the skin was noticeable. In 12 per cent of the patients with rheumatoid arthritis a temporary increase in pain in the joints was complained of. This was unaccompanied by objective changes and did not indicate the subsequent course; some patients had no benefit; others had different degrees of improvement.

In only 2 patients with rheumatoid arthritis did nausea or anorexia occur, and, to show the powerful psychic effect, one of these persons had all radiation screened by lead!

Gastrointestinal symptoms were common in patients with spondylitis whose backs were treated; anorexia,

COMMENT

Why roentgen therapy should be beneficial in rheumatic diseases, and, if it is, how its effects are produced, are questions that deserve consideration. In discussing radiotherapy for inflammatory conditions, Desjardins¹³ emphasized the destructive effect of irradiation on leukocytes, especially in suppurative inflammations, and the possible mechanism of benefit therefrom. But relatively few forms of rheumatic disease are suppurative, and certainly the more common forms of chronic arthritis are nonsuppurative! It is difficult to see how any explanation based on leukocyte destruction can be logical in rheumatoid arthritis or in spondylitis rhizomélisque. Our study of synovial fluid did not reflect any consistent destructive effect on the leukocytes therein. None of our studies revealed any information to elucidate the mechanism of roentgen effect. Och-sner¹⁷ enumerated several other theories to explain benefit that could result from roentgen therapy in inflammatory diseases; some depend on histologic changes; others involve chemical, metabolic or immunologic effects. All lack convincing proof. After careful search we are unable to find a satisfactory explanation of the *modus operandi* of roentgen therapy in this group of diseases or any theoretical background which would suggest its use.

The technic of irradiation employed by various investigators has differed considerably; the voltage, filtration, skin-target distance, size of the field, number of ports, number of roentgens delivered at each sitting, frequency and number of applications and total dose all have varied. Some authors have stated that results depend a great deal on small changes in physical factors of irradiation.⁹ This seems unreasonable to most students of this problem. After careful investigation of different methods that had been used, we adopted the method described because it seemed most suitable and because it was essentially the technic used by Kahlmeter,⁸ whose experience has been the largest and whose results have been among the best reported. There is as much theoretical support, and more clinical support, for the value of this method of treatment as for any others described. It must be clearly borne in mind, however, that only one technic has been employed in our investigations, and all of our conclusions are based on this technical method.

Further, the technic employed is a type of local, high voltage roentgen therapy. From all evidence at hand its effect is restricted to the part irradiated or a small surrounding area. On this basis we feel justified in contrasting changes in treated and comparably diseased, untreated joints in evaluating the effect of irradiation.

Subjective benefit was much more frequently reported than objective evidence of improvement could be demonstrated. The symptomatic improvement most frequently reported was partial or complete relief of pain; decrease in stiffness and greater ease and range of motion were less often noticed. Objectively, decrease in swelling and tenderness and increase in range of motion were observed in the order named.

Because of the often encountered natural remissions in chronic rheumatic disease, especially in rheumatoid arthritis, the necessity for careful control of all studies aimed to evaluate any therapeutic procedure cannot be

TABLE 10.—Cell Content of Synovial Fluid

Patient and Dates of Roentgen Therapy	Dates of Synovial Fluid Examination	Treated Joint		Comparable Untreated Joint		Clinical Results
		Total White Blood Cells	Poly-morpho-nuclear Cells	Total White Blood Cells	Poly-morpho-nuclear Cells	
		Cu. Mm. per centage	Per-centage	Cu. Mm. per centage	Per-centage	
V. P.						
Oct. 12-17	Oct. 18	.....	..	9,150	42	
Nov. 14-18	Nov. 21	.....	..	3,750	1	
Jan. 4-9	Jan. 5	.....	..	3,825	7	
Feb. 7-13	Feb. 10	2,950	58	6,050	57	0
Mar. 13-20	Mar. 17	7,000	82	7,250	57	
April 24-30	April 27	2,200	4	5,600	10	
A. B.	Jan. 28	.....	..	19,725	78	
Jan. 31-Feb. 6	Mar. 1	32,000	79	9,400	78	
Mar. 6-10	.....	.....	..	.....	..	+
April 17-21	April 18	8,500	75	20,450	85	
W. W.	Nov. 14	.....	..	35,350	81	
Nov. 16-21	.....	.....	..	.....	..
Dec. 16-21	Dec. 17	20,450	93	21,650	85	+
Jan. 30-Feb. 3	Jan. 31	12,250	81	14,900	81	
G. S.	Aug. 14	16,175	92	21,000	86	
Aug. 24-29	Sept. 1	13,950	67	9,000	63	0
.....	Sept. 26	14,400	79	19,550	86	
Sept. 27-Oct. 2	.....	.....	..	.....	..
L. C.	Sept. 23	19,750	86	.....	..
Jan. 16-20	Jan. 24	4,050	66	19,400	72	Slight benefit
Feb. 15-20	Feb. 21	4,750	18	6,630	80	
April 24-28	.....	3,100	..	.....	..
H. R.	Sept. 29	7,850	67	12,250	86	
Oct. 2-6	Oct. 4	6,750	78	5,000	86	
Nov. 6-10	Dec. 11	7,400	80	7,000	83	+
Dec. 13-18	Jan. 22	7,750	..	5,150	..	
S. K.	Feb. 15	19,350	65	8,350	44	
Feb. 17-27	Mar. 16	27,450	75	23,600	75	
Mar. 19-27	April 13	29,300	82	30,350	74	
April 17-24	.....	.....	..	.....	..	++
.....	Sept. 8	13,400	72	8,100	58	
.....	Oct. 13	18,750	..	10,300	..	
C. J.	Mar. 13	25,300	83	16,800	92	
Mar. 17-22	Mar. 28	16,350	83	12,150	83	
.....	April 17	13,300	77	35,850	87	0
April 20-26	.....	.....	..	.....	..
May 26-31	June 20	6,450	86	11,150	87	
.....	July 10	7,300	..	10,300	..	
C. M.	Aug. 19	54,650	75	28,730	84	
Aug. 22-26	.....	.....	..	.....	..
Oct. 3-5	Oct. 14	.....	..	26,750	78	
Nov. 30-Dec. 5	Dec. 5	19,150	88	30,100	81	
Jan. 17-22	Jan. 23	25,975	82	30,000	83	+
Mar. 13-20	Mar. 24	19,600	89	13,400	89	
April 26-30	April 29	28,700	85	29,850	86	
.....	July 13	22,250	..	29,400	..	
M. M.	Feb. 17	8,550	3	8,050	7	
Feb. 17-23	.....	.....	..	.....	..	+
Mar. 13-17	Mar. 16	4,150	12	7,250	16	
E. G.	Oct. 31	.....	..	35,000	93	
Nov. 10-16	Nov. 23	6,900	57	.....	..
.....	Dec. 14	2,925	3	8,425	41	
Dec. 19-Nov. 24	Jan. 19	2,175	1	6,275	3	
Jan. 17-23	Mar. 8	2,400	7	7,700	3	+
July 12-17	Sept. 12	3,200	6	3,150	4	
Sept. 12-18	.....	.....	..	.....	..
H. M.						
Jan. 16-20	Jan. 18	10,050	75	7,450	75	
.....	Feb. 14	9,275	89	5,650	78	Slight benefit
Feb. 17-21	Mar. 18	3,475	45	5,000	3	
Mar. 20-27	.....	.....	..	.....	..

nausea, vomiting or diarrhea occurred as a rule when the dorsal or lumbar part of the spine was treated, alone or along with the remainder of the spine. These symptoms always completely subsided in two or three days after therapy.^{16a}

16a. In 2 among about 30 cases of spondylitis rhizomélisque treated with roentgen rays since this report was prepared we have observed significant leukopenia shortly after treatment, which in each case was given to the entire spine. The decrease in white blood cell count was chiefly in the lymphocyte series. There was complete recovery from the leukopenia in two weeks in 1 case and after four weeks in the other.

17. Och-sner, H. C., and Mumford, E. B.: Roentgen Therapy for Painful Conditions of the Bones and Joints, Radiology 34: 444-448 (April) 1940.

overemphasized. Rigid control in the evaluation of our results largely accounts for the much less glowing results of our investigation when compared with reports of others. Frequently improvement was reported by the patient or observed by the examiner in treated joints which could and probably would have been attributed to the effect of irradiation had not similar or greater improvement simultaneously occurred in comparable untreated joints. Further, no one doubts that the psychic effect of roentgen therapy can be great. The results of the study employing lead screens leave little doubt that many of the patients with rheumatoid arthritis listed in table 2 as showing only subjective benefit had symptomatic improvement on a psychogenic basis. Thus proper attention to "control" in this critical evaluation reduces what might have been considered as about 80 per cent beneficial results of treatment in cases of rheumatoid arthritis to less than 30 per cent.

In this regard it should be pointed out that the effect of treatment in cases of spondylitis cannot be controlled well by untreated parts because of the location of the disease. Further, our results have not yet been sufficiently controlled by lead-screened treatments. When so controlled, the benefit apparently due to roentgen irradiation may be found to diminish. However, the high percentage of patients who showed definite objective evidence of improvement suggests that the majority of benefit noted is truly a roentgen effect. This is being studied further.

The diagnosis of spondylitis rhizomélisque is never questioned when roentgenograms of the spine show calcification of paravertebral ligaments, but after calcification no treatment could be expected to mobilize the spine. Satisfactory treatment of this disease depends to a large extent on early diagnosis and the institution of effective therapy before the occurrence of abnormal calcification. Diagnosis at this early stage, however, may be shrouded in doubt. Two patients in whom we made the diagnosis of early spondylitis rhizomélisque had the most dramatic benefit from roentgen therapy; in 1 there was almost complete disappearance of all clinical evidence of disease. In each instance symptoms had been present only six to nine months; the clinical manifestations were typical; roentgenograms showed disease of the sacroiliac joint, and there was elevation of the erythrocyte sedimentation rate. We believe that these patients had spondylitis rhizomélisque, but we recognize the possibility of doubt. We shall watch the course of events in these and similar patients with great interest.

Scott⁹ has reported excellent results from treating more than 400 patients with spondylitis rhizomélisque with an entirely different technic of irradiation, which he calls "wide field" therapy. He administered relatively small amounts of irradiation superficially to large areas of the trunk (back and front). He did not treat the affected parts (by local high voltage therapy), and he emphasized the necessity for irradiating large areas of the body, believing that in some way the body thereby becomes better able to resist and cure this disease (and many others). To us his arguments and rationale are not convincing. We have, however, critically examined a patient with spondylitis rhizomélisque several times before and after he received treatment by Scott, and we are convinced of the clinical and laboratory evidence of improvement which followed the therapy. Although nothing can be stated, on the basis of this one case we are planning to study the effects of this method of

therapy further. Some patients treated by us, with the high voltage roentgen technic, have improved in just as satisfactory a manner.

The sedimentation rate of erythrocytes failed to indicate any constitutional improvement in most patients with rheumatoid arthritis. Of course, we treated only half, or less, of the affected joints of most patients, which may be a factor in this regard. We were especially disappointed that in so many patients who had exacerbations of synovitis recently irradiated joints shared equally in the increased inflammation. In some cases increase in the severity of the disease occurred only in treated joints. (These exacerbations are not to be confused with the temporary symptomatic flare-ups which sometimes occurred during treatment. They were the changes commonly seen with relapses in rheumatoid arthritis.) Irradiation seems to offer no protection against such exacerbations.

Many of the older reports and Kahlmeter's⁸ more recent studies indicate that roentgen therapy gives good results consistently in the acute inflammatory types of arthritis, such as gonococcic and gouty arthritis, and in the more acute forms of nonarticular rheumatism. Certainly this form of therapy would not be preferable to the highly satisfactory chemotherapeutic agents now available for the treatment of gonococcic and gouty arthritis. Many acute forms of nonarticular rheumatism are of such short duration that the time needed for safe, repeated irradiation limits its usefulness in these cases. In the more obstinate cases our results were discouraging. Much of the subjective benefit obtained in these cases was shown to be psychogenic. However, our experience with nonarticular rheumatic disease is insufficient to permit a final opinion.

In the few cases of degenerative joint disease studied, results were poor, but more patients will need to be observed before satisfactory evaluation can be made. If symptoms of this disease are largely due to associated fibrositis, as Abel, Siebert and Earp¹⁸ stated, benefit could more likely be expected than if it depended on alteration of the joint structure proper. Because roentgenograms showed no benefit to the bones and cartilage of the joints any effect of roentgen irradiation seems definitely limited to soft tissue.

The general limitations of this form of treatment need to be kept in mind. Only a few parts can be treated at a time, and if extensive polyarticular involvement exists, as it does so commonly in rheumatoid arthritis, adequate treatment of all parts might be impossible or could be accomplished only with great inconvenience. The availability of roentgen therapy is greatly restricted, and the expense would often prohibit its use. The only real danger known is the damaging effect of irradiation on the skin.¹⁰ We have seen 1 patient who had extensive treatment to the hands (given elsewhere) in whom there subsequently developed what appeared to be early irradiation dermatitis.

The most important theoretical and practical criticism of roentgen treatment of rheumatoid arthritis is that it is local treatment for a constitutional disease. It would seem highly fantastic to expect favorably to influence the disease in general by local irradiation. However, often patients with many joints affected are kept

18. Abel, Oliver; Siebert, W. J., and Earp, Ralph: Fibrositis, *J. Missouri State M. A.* 38: 435-437 (Nov.) 1939.

19. Leukopenia observed in cases of spondylitis rhizomélisque in which treatment over a large portion of the spine was administered has already been mentioned in a previous footnote.

uncomfortable or are incapacitated by persistent severe inflammation in only one or two joints. It was in this group of patients that we hoped for good results from roentgen treatment, but especially in this group results were undependable and in general discouraging.

SUMMARY

One hundred patients with rheumatic disease who were given local high voltage roentgen irradiation were carefully studied under well controlled conditions for the effect of this form of treatment. In a large group of patients with rheumatoid arthritis, 44 per cent showed no subjective or objective benefit that could be attributed to irradiation; in 30 per cent only subjective benefit occurred; in only 26 per cent was there any objective improvement which could be attributed to roentgen therapy, and this was of significant grade in only 14 per cent. Decrease in pain was the chief symptomatic improvement, and this was clearly shown to be of psychogenic origin in many of the patients. The joints irradiated were not protected against subsequent exacerbation of synovitis. No correlation was found between clinical results and age of the patient or duration or activity of the disease; results were slightly better in patients with early rheumatoid arthritis.

In 85 per cent of the patients the erythrocyte sedimentation rate remained unchanged or it was increased. There was no close correlation between changes in sedimentation rate and clinical results. There was no improvement in the roentgenographic appearance of the joint cartilage or bones in any instance; more extensive anatomic changes appeared in some patients clinically improved. No consistent change was observed in the synovial fluid or the capsules of the joints treated. Thus in patients with rheumatoid arthritis roentgen irradiation by the technic employed gave unpredictable and unreliable results, which by careful study were shown to be far less satisfactory than other reports have suggested, and in general they were so discouraging that we have abandoned this treatment except in rare, obstinate cases or cases in which a psychic effect is desired.

Significant subjective and objective results were obtained in 74 per cent of 15 patients with spondylitis rhizomélisque. Some patients had complete disappearance of symptoms, and in 2 patients with early spondylitis there was almost complete disappearance of all clinical evidence of disease. The sedimentation rate of erythrocytes decreased significantly in 40 per cent. Roentgenographic abnormalities were not favorably altered. The nature of the disease does not allow a satisfactory control of the investigation, and psychic effects have not yet been sufficiently studied, but in general we are quite encouraged with the possibilities of roentgen irradiation in this type of arthritis, and we are studying it further.

Our experience with degenerative disease of joints and nonarticular forms of rheumatism is insufficient to allow critical appraisal of the value of roentgen therapy. The results in general have been discouraging. Part at least of the symptomatic benefit has been psychogenic.

The rationale for employment of roentgen therapy in rheumatic disease and its *modus operandi* remain to us a complete mystery.

MITRAL STENOSIS AFTER EIGHTY

WITH ESPECIAL REFERENCE TO
DR. HERMAN F. VICKERY

PAUL D. WHITE, M.D.

AND

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It is common knowledge that rheumatic heart disease is sometimes found after middle age and that it does not necessarily limit life to three score and ten, but survival beyond 80 years is so unfamiliar as to demand a special note. We are herein reporting, first, the striking case of Dr. Herman F. Vickery, who not only reached his eighty-fourth year with a moderate degree of mitral stenosis but also lived his long life actively and without cardiac symptoms except for angina pectoris at the end of his life, and, second, 3 other cases of proved mitral stenosis in Boston with survival beyond the age of 80.

Coombs¹ in 1924 reported that the oldest of a series of 281 patients with established rheumatic heart disease was 70. In Grant's² series of 1,000 men suffering from heart disease the oldest patient with mitral stenosis was 59. In 1926 Cabot³ reported that 6 patients between 70 and 80, but none over 80, had disease of the mitral valve among 208 persons shown to have had rheumatic heart disease in a series of four thousand autopsies at the Massachusetts General Hospital between 1896 and 1919 and that 1 patient in the eighth decade in his outpatient and private practice had had it. Edström⁴ in 1935 reported that no patient in a large series in Sweden was over 80. DeGraff and Lingg⁵ found that 5 among 644 patients with rheumatic heart disease from the cardiac clinic of the Bellevue Hospital in New York known to be dead were between 70 and 80 years old; none was over 80. Conversely, none of 83 patients between the ages of 80 and 90 in a series of 5,215 on whom an autopsy was performed at the Boston City Hospital showed rheumatic heart disease.⁶

Recently, however, mitral stenosis has been found at autopsy on a woman who died at 80 and had been known to have had auricular fibrillation for twenty-five years before her death.⁷ Dr. Robert Starr⁸ of Hartford, Conn., has also recently told us of a patient with mitral stenosis whom he first saw in 1928 at the age of 73 and who continues in fair health, now 85 years old and as active as any person of that age.

PRESENT SERIES OF PATIENTS

CASE 1.—Herman F. Vickery, noted physician, was born in Rochester, N. Y., in 1856. He was always slight in build but active and well until old age, except for a period of a year of delicate health of uncertain nature in boyhood at which time he was out of school. He smoked considerably until he was 79 but used little alcohol. He exercised vigorously, rowing for many years, riding a bicycle in his early days of practice and

1. Coombs, Cary: *Rheumatic Heart Disease*, New York, William Wood & Company, 1924.

2. Grant, R. T.: *After Histories for Ten Years of One Thousand Men Suffering from Heart Disease*, Heart 16: 276 (June) 1933.

3. Cabot, R. C.: *Facts on the Heart*, Philadelphia, W. B. Saunders Company, 1926.

4. Edström, Gunnar: *Febris rheumatica*, Lund, Sweden, Berling, 1935.

5. DeGraff, A. C., and Lingg, Claire: *The Course of Rheumatic Heart Disease in Adults*, Am. Heart J. 10: 459 (April) 1935.

6. Davis, David, and Weiss, Soma: *Rheumatic Heart Disease: II. Incidence and Distribution of the Age of Death*, Am. Heart J. 8: 182 (Dec.) 1932.

7. Bishop, L. F., and Bishop, L. F., Jr.: *Auricular Fibrillation Observed for Twenty-Five Years*, J. A. M. A. 114: 955 (March 16) 1940.

8. Starr, R.: Personal communication to the authors, April 23,

gardening even in his old age. He was never stopped by symptoms until the age of 77, when he gave up playing more than nine holes of golf at a time because of dyspnea on the grades and easy fatigue. Two years later angina pectoris came on and limited him sharply, so that he could hardly walk around a block in winter weather. He had rarely been examined but had been granted life insurance in his youth.

His father died of apoplexy at 63 and two sisters of cancer at 45 and 55 respectively. His mother lived to be 81. One son died of rheumatic heart disease at 15 years. Three children were well.

We were asked to see Dr. Vickery because of his recent and increasing angina pectoris in February 1936, when he was 79½ years old, four years before his death. At that time he looked well but was slightly deaf. His deafness increased during the rest of his life, especially after an attack of otitis media in 1937. There was a moderate arcus senilis in each eye. The jugular pulse was normal. The heart was slightly enlarged, with accentuated first and third sounds at the apex and second sound in the area of the pulmonary valve, and there was a slight mid-diastolic murmur at the apex. The rhythm was regular except for rare premature contractions, the pulse rate was 70 and the blood pressure was 190 systolic and 100 diastolic. There was no evidence of congestive failure. Aminophylline and glyceryl trinitrate were prescribed along with much limitation of activity, light meals and abstinence from tobacco.

In May 1936 he reported himself much improved, able to walk around Jamaica Pond (about two miles) and to play nine holes of golf. He had used only a few tablets of glyceryl trinitrate in the previous few months but with benefit each time. His blood pressure was 175 systolic and 85 diastolic. No murmurs were heard. The electrocardiogram showed normal rhythm at a rate of 75 with high T waves in lead 1, slightly inverted T waves in lead 2 and deep T waves in leads 3 and 4. Fluoroscopic examination revealed that he had a slight enlargement of the heart, clear lungs and a dense but not widened aorta.

In October 1936 he was well, having golfed and gardened during the summer with only rare attacks of angina pectoris. No cardiac murmurs were noted. His electrocardiogram had returned essentially to normal, with upright T waves in leads 2 and 4.

On Feb. 8, 1937 he came to the office unusually well for that time of year and with an essentially normal electrocardiogram, but three days later he caught a cold, and for several weeks he was ill with bronchopneumonia and otitis media. During this time there was a period of auricular fibrillation which lasted a week, but no murmurs were heard. Therapy with digitalis was begun during this paroxysm of fibrillation, omitted at its end but resumed a month later because of some persistent dyspnea. He continued to take a daily ration of digitalis (1 grain [0.065 Gm.]) for the rest of his life (somewhat less than three years), but he was free from auricular fibrillation after that illness in the late winter of 1937.

In the fall of 1937 he was well except for dyspnea on little effort, with slight cyanosis. He had no angina pectoris and could lie flat without trouble. Examinations revealed no change except for rales and emphysematous breathing at the bases of both lungs which persisted thereafter and were at first interpreted as evidence of congestive heart failure and later correctly ascribed to a bronchial infection. In December 1937 and March 1938 the rales were still present at the bases of the lungs, and a slight presystolic murmur was heard at the cardiac apex. During the rest of 1938 and throughout 1939 Dr. Vickery remained much limited by his dyspnea. He had to give up golf and could do only a little gardening. He had had no angina pectoris for a long time, partly at least because he was relatively inactive because of his dyspnea.

On Dec. 8, 1939 examination revealed no change except that a definite apical diastolic murmur with presystolic accentuation was heard. A diagnosis of slight mitral stenosis was made despite the patient's 83 years. Knowing our interest in his cardiac condition, although himself skeptical of the diagnosis, he asked his family to permit a postmortem examination when the time should come.

During the early winter of 1939-1940 Dr. Vickery grew steadily weaker, more dyspneic and finally cyanotic despite all

therapy, including oxygen, which would give him temporary benefit. He had no fever then. Toward the end of January he had a mild acute infection of the respiratory tract which he seemed at first to resist, but he finally died in coma on February 22, his death being due, it was thought, primarily to bronchopneumonia.

Postmortem examination by Dr. Tracy Mallory revealed bronchopneumonia at the bases of both lungs with a slight amount of bronchiectasis at the base of the left lung. There were extensive, dense, fibrous pleural adhesions. The heart was somewhat enlarged, weighing 425 Gm. The myocardium was firm and of normal color without scars. The left ventricular wall was thicker than normal, measuring 17 mm.; the right ventricular wall was 4 mm. thick. All the valves were normal except for the mitral, which showed a slight to moderate degree of stenosis with nodular adherence between the cusps, thickening and shortening of the chordae tendineae and scarring of the apices of the two papillary muscles. The circumference of the mitral valve measured 7.5 cm. Little calcification was present in the deformed valve, ruling out a possible calcareous valvular disease. On the auricular surface of the most nodular part of the valve there was a fresh thrombus 3 mm. in diameter. The left auricle showed little or no enlargement. The left coronary artery showed moderate atheroma and narrowing of all its main branches, consisting of two rather small anterior vessels evidently taking the place of the usual large anterior descending branch, and of a small circumflex branch. The right coronary artery was large, with crescentic thickening of its wall but no significant narrowing. The mouths of the coronary arteries were fully patent and the ascending aorta was in fairly good condition, but the descending aorta from the arch to its bifurcation into the common iliac arteries showed extensive atheromatous deposits with much calcification. The pulmonary artery and great veins were normal. The liver was acutely congested but not cirrhotic; it weighed 1,800 Gm. The gallbladder, bile ducts, pancreas, gastrointestinal tract, spleen and urinary tract were essentially normal, except for diverticulosis coli.

In summary, there was found a moderate amount of non-calcific mitral stenosis and of arteriosclerosis with narrowing of the main branches of the left coronary artery, slight hypertrophy of the left ventricle, extensive sclerosis of the descending aorta, and bronchopneumonia in both lungs with bronchiectasis at the base of the left lung.

The foregoing is interesting and important evidence of the ability of the heart to withstand the strain of a moderate amount of mitral stenosis even in advanced age. It is probable that the rheumatic heart disease, for the pathologic picture is typical of such, developed in early childhood when he was in "delicate health" for a year but never progressed to a crippling degree, nor was there evidence of recurring rheumatic infection to trouble him. It is of interest that a child of his died of rheumatic heart disease at 15, but there was no story of Dr. Vickery's having been ill at that time. He was of fairly tough stock except for the malignant disease of his two sisters and the hypertension suffered by his father, a tendency to the latter evidently being an inherited characteristic of his own.

The stenosis of the mitral valve was not of the fish-mouth or buttonhole variety. It was not even extensive enough to cause an appreciable enlargement of the left auricle, either ante mortem or post mortem, or of persistent auricular fibrillation, and only occasionally, when the flow of blood was speeded up or careful search was made, was the characteristic mitral diastolic murmur heard.⁹ Evidently there was just enough mitral stenosis to diagnose but not to worry about clinically. In his case, therefore, and we dare say in many others, the mitral stenosis may be regarded as largely of academic interest, provided rheumatic reactivation does

9. It is unlikely also that the mitral stenosis in Dr. Vickery's case played any important part in the causation of his angina pectoris.

not take place. It is possible but not probable that Dr. Vickery's "rheumatic heart disease" developed late in his life. If it did, it is equally noteworthy.

The most interesting considerations of all in the case of Dr. Vickery were his own medical achievements and opinions about rheumatic heart disease. He graduated from Harvard College in 1878 and from the Harvard Medical School in 1882, and became one of the leaders of his generation in internal medicine in this country. He was house pupil and later for many years one of the medical visiting physicians at the Massachusetts General Hospital. He studied for a year, from 1883 to 1884, at Leipzig and Vienna and taught clinical medicine thereafter at the Harvard Medical School. He also conducted a large consulting practice. An able teacher and clinician, he translated Strümpell's textbook of medicine in 1886; this not only was the leading work on the subject here until Osler's book appeared in the nineties but went through four editions, the last in 1911. Among other writings, there appeared the following observations of special immediate interest to us on the prognosis in heart disease by him in collaboration with Whittier and Greene.¹⁰

Citing Leyden the authors stated that the prognosis is more favorable than was formerly regarded.

"In mitral disease, only about 2 per cent of the cases die suddenly. In a considerable number of cases the length of life is not essentially shortened by the disease" (p. B 28).

"Valvular lesions may cause no subjective symptoms, the disease being discovered incidentally. It is wrong to give such a patient a gloomy prognosis. . . . Again, the less the hypertrophy (or dilatation), the more favorable the prognosis" (p. B 32).

"One woman had suffered from mitral stenosis for twenty years, and during that time had borne seven or eight children, and she was now in pretty much the same condition as before" (p. B 37, quoting G. S. Middleton).

The authors also referred (p. 36) to the clearing of cardiac murmurs after the clearing of rheumatism and (p. 35) to the milder valvular lesions in cases of chorea.

Not knowing of his own heart disease until the end of his life, Dr. Vickery exemplified in his own person the good prognosis that may exist in mitral stenosis.

CASE 2.—Harriet Hull, aged 82, a spinster, entered the Massachusetts General Hospital on Sept. 22, 1939. She was known to have had rheumatic fever at 50 with mitral stenosis thereafter, and she had been "in and out of heart failure" several times for a number of years prior to admission to the hospital. She had been receiving digitalis and diuretic therapy and had lapsed into unconsciousness a few hours before arrival. Examination on admission revealed that the heart was moderately enlarged, with a loud mitral diastolic murmur at the apex. The rhythm was regular, although she had had paroxysms of auricular fibrillation in the past. The blood pressure was 120 mm. of mercury systolic and 60 mm. diastolic. There were rales at the bases of both lungs and slight pitting edema of the legs. An indurated mass in the left breast was thought to be carcinoma. She failed to respond to therapy; the lungs became increasingly congested and the coma more pronounced. She died a few hours after entry.

At postmortem examination there were signs of congestion in the lungs, slight cerebral edema, chronic vascular nephritis, carcinoma of the breast and chronic rheumatic endocarditis of both the mitral and the aortic valves. The mitral valve was considerably thickened, partially calcified and moderately stenosed. The circumference of the orifice measured approxi-

mately 6 cm. The heart weighed 290 Gm. The coronary arteries showed only minimal atherosclerotic plaques.

CASE 3.¹¹—Frank Hampton, aged 77, unemployed, was first seen in the outpatient department of the Massachusetts General Hospital because of exertional dyspnea, slight swelling of the ankles and failing vision (cataracts). He had had rheumatic fever at 52. A diagnosis of rheumatic heart disease with aortic stenosis and regurgitation, mitral stenosis and auricular fibrillation was made. His blood pressure was 130 mm. of mercury systolic and 65 mm. diastolic. The last four years of his life were spent quietly and comfortably at the Home for Aged Men. His ventricular rate was controlled by maintenance rations of digitalis. He died at the age of 81 (Dec. 16, 1932), primarily of thrombosis of the superior mesenteric artery, with resulting gangrenous enteritis and fibrinous peritonitis.

At postmortem examination the heart weighed 575 Gm. The pericardium was completely obliterated by old fibrous adhesions. The mitral valve showed well marked stenosis. The orifice was firmly fixed in a patent position and measured 1.5 by 2 cm. The valvular cusps were thickened and fused. The aortic valve also showed stenosis and fixation—the orifice measured 1 cm. in diameter. The coronary arteries showed only slight atherosclerosis. Microscopic sections of the myocardium revealed a great increase in fibrous tissue but no evidence of rheumatic activity. Cerebral arteriosclerosis and areas of cerebral softening were found in addition to the intra-abdominal condition (mentioned previously) which caused his death.

CASE 4.¹²—Augusta Alexander, aged 83, a housewife, a Russian Jewess with normal family and past histories, was sent into the Beth Israel Hospital in a moribund state by her local physician on Nov. 19, 1933. Her illness had begun about ten weeks before with increasing dyspnea, orthopnea and swelling of the ankles. For the six weeks before admission the patient had been confined to bed. Physical examination revealed that she was well developed and well nourished; she had deep cyanosis of the face and was gasping for breath. The pupils were round, equal and regular and reacted normally. There were bilateral ripe cataracts. The thyroid gland was not enlarged. There was a slight increase in the anteroposterior diameter of the chest. Respirations were rapid and shallow and breath sounds normal. Tactile and vocal fremitus could not be tested. There was a moderate number of rales in the bases of both lungs, especially the right. The heart was moderately enlarged; the sounds were slow, faint and of poor quality. There was a loud, harsh systolic murmur heard best at the apex. The abdomen was soft and slightly distended. The edge of the liver could be felt 5 cm. below the costal margin. There was slight pitting edema over the sacrum with moderate edema over the legs up to the knees. There was moderate peripheral arteriosclerosis. All the deep reflexes were equal and active. The blood pressure was 130 systolic and 70 diastolic. The patient died suddenly less than an hour after admission.

At autopsy there were seen a moderately enlarged heart (525 Gm. in weight with thick right and left ventricular walls, 15 and 25 mm. respectively); a calcified mitral valve which was also greatly stenosed, admitting one finger with difficulty, although the circumference measured 7.5 cm.; a calcified, moderately stenosed aortic valve (5.7 cm. in diameter); slight pulmonary emphysema; an extensive antemortem clot filling the main trunk of the pulmonary artery and extending into both branches; primary carcinoma of the right lung; an enlarged nutmeg liver; a scarred gallbladder; two duodenal ulcers, one of which was penetrating the liver and the other the pancreas; moderate arteriosclerosis, peripherally and of the coronary arteries, and several hundred cubic centimeters of fluid in each pleural cavity.

Thus, we have in recent years come across 4 patients with proved mitral stenosis in Boston who survived 80 years and who were in fairly good health till old age. Doubtless there have been others here and elsewhere undiscovered, partly because it is not common to bother about autopsies in extremely aged persons

10. In the Section on Diseases of the Heart, Pericardium and Arteries in Sajous, *Annual of the Universal Medical Sciences*, Philadelphia, 1890.

11. Permission to include this case was given by Dr. R. S. Palmer.
12. Permission to include this case was given by Dr. Harry Derow and Harry Levine.

and partly because lesions of this sort have not been looked for with special care after the age of 70. Four reasons for such longevity may be mentioned: first, a relatively mild to moderate degree of the mitral stenosis in some of the cases as in that of Dr. Vickery; second, the possible late development of the rheumatic heart disease suggested by rheumatic fever at 50 or after in cases 2 and 3; third, a relatively quiet and careful life, as illustrated in cases 2 and 4, and fourth, an ancestral inheritance of longevity probably present in all. It would be of interest to attempt a more careful analysis of these factors with more extensive material.

That even extensive mitral stenosis, more advanced than that seen in these 4 cases, is compatible with survival to old age may be added here with the striking example we encountered only a few weeks ago: Mrs. A. McG., aged 73, died of bronchopneumonia with but little heart failure. She had lived a sheltered life after a youth in which she had been a singer. She showed at autopsy a narrow fish-mouth mitral valve with an extreme degree of stenosis. The heart weighed 310 Gm.

SUMMARY

Four patients with mitral stenosis of moderate degree, proved at autopsy, survived the age of 80 years, two men aged 83 and 81 and two women aged 82 and 83. The first patient of the group, Dr. Herman F. Vickery, unaware of his heart trouble, carried on an active and eminently useful medical career, was a leader of his generation and himself wrote on the good prognosis of many cases of rheumatic heart disease.

ALOPECIA AREATA

AN APPRAISAL OF ENDOCRINE FACTORS IN ITS CAUSATION

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Changes in growth and distribution of hair occur frequently among patients who are afflicted with diseases of the endocrine organs. Probably for this reason it has almost become accepted practice for physicians to assume that the cause of alopecia areata can often be found in the endocrine system. It is further supposed that effective therapeutic results could be achieved if the offending gland were identified and appropriate endocrine treatment instituted. To test the validity of these assumptions this study was undertaken.

We reasoned that if the foregoing premises were correct there would be a high incidence of unmistakable endocrine diseases in a series of cases of alopecia areata. Furthermore, if glandular abnormalities were responsible for the alopecia, the evidence of disturbed endocrine function would be most marked in the severest cases, that is, the cases of so-called malignant or universal alopecia, in which not only most of the scalp hairs and body lanugo are shed but also the secondary, sexually conditioned hairs of the axillae, pubis and beard. If, for example, alopecia areata was the result of insufficiency of the anterior lobe of the pituitary body, one might expect to find instances of chromophobe tumor of the pituitary body in a series of cases of universal alopecia, because such tumors are

often associated with high grade insufficiency of the anterior lobe of the pituitary body. Likewise, if the alopecia was the consequence of insufficiency of the thyroid gland, one would expect a frequent association with myxedema.¹ The same reasoning applies with equal validity to the incrimination of any one of the ductless glands as causative agents of universal alopecia.² For a proper evaluation of endocrine factors in the causation of the disease, we have therefore studied the records of 138 patients who were examined at the Mayo Clinic because of generalized or universal alopecia areata.

SURVEY OF MATERIAL

The sex incidence and age of onset of alopecia in our cases are given in the accompanying table. Of interest is the fact, already noted by other authors, that the sexes are almost equally represented in childhood, but that among adults the disease is more than twice as common in men as in women. Whether the greater frequency in men reflects a constitutional vulnerability of the pilar system, which accounts also for the preponderance of premature, senile and seborrheic alopecias in the male sex, cannot be determined. Attention is called to the incidence of cases beginning in the first three decades of life, comprising 70 per cent of the patients, and particularly to the number of cases in the first decade, during which time the endocrine processes that are concerned with sexual maturity are to some extent dormant and relatively unimportant physiologically.

A familial history of alopecia areata was elicited in 6 cases, but only once was identical universal alopecia reported in another member of the family. Infectious diseases, such as influenza, typhoid, scarlet fever or malaria, preceded the onset of alopecia in 14 cases. A history of antecedent trauma to the skull was provided by 4 patients. Diabetes mellitus complicated the alopecia in only a single instance. Sudden excitement or fright, anxiety and nervous exhaustion were possible predisposing factors in a small proportion of the cases.

The body build of only a few patients was remarkable. Eight were obese and an equal number were underweight. A physique which was characteristic of any one of the endocrinopathies, such as that of the Froelich, Cushing or Simmonds syndrome, or acromegaly, gigantism or infantilism, was not encountered in a single instance.

Menstrual abnormalities occurred in seven women in the form of irregular or scanty flow or both. This is not a significantly large group, and, as far as the menstrual history can be regarded as an adequate practical measure of the endocrine status, there is little evidence of hormonal abnormality in the women studied. In 1 case complete amenorrhea developed at the age of 24 years, nine years after the onset of loss

1. These examples were chosen because the anterior lobe of the pituitary body and the thyroid gland most frequently have been thought to be the offending organs in cases of alopecia areata. In the case of the anterior lobe of the pituitary body, the assumption has been made tacitly that the disturbance of function is one of hyposecretion rather than one of hypersecretion, whereas for the thyroid gland both hyperfunction and hypofunction have been invoked.

2. There are two possible loopholes in this logic: First, one may conjecture that the "pilar function" of a multifunctioning endocrine gland (such as the anterior lobe of the pituitary body) may be impaired, even though the other functions remain relatively intact. Occasionally one does see clinical examples of such dissociated disturbances of function. For example, the first symptom of a chromophobe tumor of the pituitary body may be amenorrhea. In most instances, however, sooner or later as the disease progresses, other functions of the anterior lobe of the pituitary body become deranged; and these derangements eventually become evident clinically. But among patients who are afflicted with alopecia areata there is no such progression of symptoms. Second, one may suppose that alopecia areata arises from the disturbance of an endocrine organ as yet unidentified whose primary function is concerned with the growth of hair. This supposition can be dismissed without further comment.

of hair. Alopecia in 1 case began at the menarche and in 2 cases during the climacterium. It is of interest that, where we have the pertinent information, the menstrual cycle of the girls whose alopecia started in childhood had a normal initiation at puberty, without affecting the growth of hair. In other words, recovery did not take place with the endocrine readjustments of puberty and adolescence.

The variable influence of pregnancy is of extreme interest in certain cases. Each of 6 patients experienced a substantial regrowth of hair during one or more pregnancies (a phenomenon which has been attributed to stimulation by endocrine secretions of the fetus³), only to have the hair fall shortly after parturition. On the other hand, 2 patients observed their first indication of alopecia during pregnancy, and 2 others in the puerperium. It may be added that the very fact that certain women did become pregnant speaks for fairly normal function of the pituitary, ovarian and thyroid glands.

Infertility was a complaint of 2 women, and repeated spontaneous abortions of a third.

Although gonadal abnormalities were observed among several of the male patients, evidence of consequent pathologic decrease of hormonal activity must be regarded as far from conclusive, save for one exception: A youth aged 17 was diagnosed as having bilateral cryptorchism, and no testicular tissue could be demonstrated at operation. Unilateral cryptorchism was present in 3 boys, unilateral testicular atrophy, the result of orchitis complicating mumps, was found in 1 adult, and a mild grade of bilateral testicular atrophy of unknown origin in another. One patient had had orchiectomy performed in the course of herniorrhaphy eighteen years prior to the beginning of alopecia. Five men, none of them in the foregoing group, complained of decreased libido.

The basal metabolic rate was investigated in 62 cases. Rates of less than —10 per cent occurred in 15 cases, the lowest reaching —26 per cent; but there were signs of myxedema in only 2 cases, and treatment with thyroid in neither case caused a restitution of hair despite complete control of the myxedema. The frequency of low metabolic rates in alopecia areata has been observed by others.⁴ This finding should be interpreted in the light of the circumstance that a low metabolic rate occurs not uncommonly even in the absence of myxedema or other clinical evidence of insufficiency of the thyroid gland. Certainly the fact is irrefutable that the vast majority of patients who have subnormal metabolic rates with or without myxedema do not have alopecia areata.

Elevated rates of basal metabolism were recorded for 2 patients, whose readings were +16 and +19 per cent respectively, but in whom no other clinical evidence of hyperthyroidism was demonstrable. One patient had had thyroidectomy for exophthalmic goiter seven years before loss of hair occurred. Three patients presented nodular goiters without signs of hyperthyroidism, and in 2 others a slight diffuse enlargement of the thyroid gland was palpable.

Roentgenograms of the sella turcica in 22 cases disclosed no pathologic features.

3. Strandberg, James: Haut und innere Sekretion, in Jadassohn, Josef: Handbuch der Haut- und Geschlechtskrankheiten, Berlin, Julius Springer, 1929, vol. 3, pp. 211-214.

4. Feit, Hermann; Throne, Binford, and Myers, C. N.: Alopecia Areata: Its Relation to Metal Retention, in Comptes rendus des séances, VIII^e Congrès international de dermatologie et de syphilographie, Copenhagen, Engelsen & Schrøder, 1930, pp. 732-737.

Anomalies of pigmentation have frequently been reported in association with alopecia areata, suggesting to some authors, for reasons not entirely clear, supportive evidence for endocrine disease. Vitiligo was present in 9 of our cases and chloasma in 3. The white fuzzy regrowth which commonly occurs in alopecia areata reflects the disappearance of pigment from the region of the hair bulbs, as Woringer and Thé⁵ have shown. Disturbance of nail growth and structure (pitting, longitudinal furrowing, thickening or thinning of the plates) was frequently observed.

Syphilis was diagnosed in 7 cases, but a definite relationship between syphilis and alopecia could not be established, nor did antisiphilitic therapy in these instances influence the hair disease in the slightest. We do not agree with the view emphasized by French authors that syphilis is an important factor in the causation of alopecia areata.

COURSE AND PROGNOSIS

Patchy alopecia, in one or more attacks limited as a rule to the scalp, nearly always precedes generalization of the baldness. In some cases temporary recovery takes place between attacks; in others the patches of alopecia gradually increase in number, progressing over

Alopecia Areata Universalis: Age of Onset and Sex Distribution

Age, Years	Total Cases	Men	Women
0-4	12	6	6
5-9	18	10	8
10-14	15	8	7
15-19	18	14	4
20-29	34	21	13
30-39	19	16	3
40-49	18	11	7
50-59	3	2	1
60-69	1	1	..
Total	138	89	49

a period of months or years, to cover the entire body; or, rarely, the loss of hair is rapid, requiring no more than twenty-four hours for complete and total exfoliation. Even the so-called sensory hairs of the nose and ears may be lost, and in at least 1 of our cases a hairy pigmented nevus was observed to have become entirely devoid of hairs.

In many cases an irregular slight growth of lanugo, perhaps interspersed with a few straggling definitive hairs, makes an appearance from time to time, remains for a variable period, and then falls out wholly or in part. Seldom does the regrowth amount to more than a pale silky fuzz over the scalp, although occasionally sparse patches of dark terminal hairs will emerge. Often a seasonal stimulation is noted in the tendency for this abortive growth to occur during the summer months or during a sojourn in a warm climate. In many other cases, however, there is not the slightest sign of the return of hair. The longest duration of the disease in any case of our group is forty-five years. Frequently it lasts during the remainder of a lifetime. Usually the general health is good, both at the onset and after fresh episodes of baldness, and this fact is in itself of no little endocrine significance.

A presumably permanent regrowth of hair occurred in only 4 cases after two to ten years of the disease. That a new growth may not remain, even though present in normal amount, is evidenced by the experi-

5. Woringer, F., and Thé, R.: Contribution à l'étude de la pigmentation des plaques, péladiques, Ann. de dermat. et syph. 6: 1016-1053 (Oct. 23) 1935.

ence of 3 other patients, who reported complete restoration of hair, followed, after an interval of two years or less, by recurrence of alopecia. The small probability of favorable permanent results characterizes alopecia universalis and well merits for the disease the designation "malignant."⁶

Our experience has not convinced us that treatment of any kind has been of avail in this condition. Moreover, many of our patients, prior to coming to the clinic, had been treated elsewhere with "glandular" preparations of various kinds, administered orally or by injection, without appreciable benefit to the hair. There is no doubt that after an intensive course of injections of anterior pituitary or of estrogenic substance a diffuse, fine, downy growth on the scalp is sometimes observed, but we have yet to see the total return of normal terminal hairs as a result of such treatment. Thyroid has been given to persons with and without low basal metabolic rate, without influencing hair recovery. Other methods of treatment have no more to recommend them. We are unfortunately not aware of the factors which, in exceptional cases, contribute to a regrowth of normal hair.

COMMENT

Certain fundamental endocrinologic concepts⁷ may be briefly reviewed for an appreciation of this problem. Function of endocrine secretion is of two types: (1) coordination of organs to the needs of the organism as a whole and to its external environment, and (2) maintenance of physiologic chemical processes within prescribed limitations. Hormones of the second type may be catalytic in character; that is, they hasten processes which would proceed slowly in their absence. It is important to recognize the fact that these reactions do continue in the absence of the hormone but that their velocity is reduced under such circumstances. Growth of hair continues to a certain extent after the extirpation of any one of the organs of internal secretion; it is a primitive characteristic of the species. Unquestionably certain features of hair growth depend on endocrine factors, but whatever influence the endocrine system may have on this growth is probably regulatory rather than absolutely determining. This does not imply that the pilary system may not, per se, become intrinsically deranged and cease to function, even though the stimulating effects of the endocrine system are adequate. The relationship is complex, and we must concur in the opinion of Danforth⁸ that satisfactory information concerning the influence of the endocrine organs on hair growth in man is lacking at present.

SUMMARY AND CONCLUSIONS

A review of 138 cases of universal alopecia fails, in general, to disclose gross clinical evidence of any consistent functional abnormality of the internal secretions. Our data indicate that at present the assumption of an endocrine causation for this condition is unwarranted by the facts. The instances in which concomitant features of definite endocrine disease occur are relatively few, and the associations appear to be incidental rather than causal. These conclusions, we feel, should apply even more forcibly to the common form of alopecia areata, in which the loss of hair is much less extensive. The unfavorable outlook for regrowth of

hair in universal alopecia is emphasized by the fact that only 4 of the patients in this group recovered completely. It is our opinion that endocrine treatment, at least in the present state of its development, is ineffectual.

THE EVALUATION OF PREMARITAL LEGISLATION

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During the past four years a number of state legislatures have imposed restrictions preventing the marriage of persons found to be afflicted with syphilis. This has been accomplished by the amendment of existing laws or the setting up of new statutes. The requirements to be met vary greatly in the twenty-six states which have adopted this type of legislation. In general, the issuance of a license is based on the result of physical examination, laboratory tests or in some instances the mere certification of freedom from venereal disease by a registered physician.

The medical profession has not been unanimous in its sanction of such legislative efforts. The most definite expressions of disapproval have come from eminent syphilologists.¹ A summary of the dissenting opinion indicates the following objections: (a) Too great a reliance is placed on the results of blood examinations. (b) Many patients who have positive reactions of the blood are probably noninfectious. (c) Persons with congenital syphilis would be prevented from marrying, although they are probably noninfectious. (d) Technical or biologic false positive reactions may place the stigma of syphilis on the non-infected. (e) Such legislation is a punitive measure and an abridgment of personal rights. (f) The medical profession was not sufficiently consulted in drafting the laws. (g) The public does not understand the reason for such legislation.

STATISTICAL SUMMARY

Data on the actual number of cases of syphilis detected by means of the premarital dragnet is as yet fragmentary. It was felt desirable to summarize at this time such figures as were available in the literature and to add to these the results observed in West Virginia during the first year of operation of the premarital law. A summary appears in the table.

Several of the reports cited in the table included "estimates" of the number of positive reactions discovered by laboratories not actually reporting. In this discussion such theoretical figures were disregarded. The tabulation therefore included only figures that are susceptible of verification. The period covered by the report extended from Jan. 1, 1936 to June 1, 1940 but varies in the different states depending on the date on which the respective premarital statutes became effective. The criticism may be offered that I am reporting series of positive reactions of blood tests only and not necessarily proved cases of syphilis. The justness of this criticism is acknowledged. It would be most desirable in such a study as this to report the exact number of cases of infectious syphilis among the positive reactors included in my compilation. Such

From the Medical Division of the Wheeling Clinic.

1. Stokes, J. H., and Nelson, N. R., Jr.: Syphilis and the Law, *J. A. M. A.* 112:113 (Feb. 1936).
2. Nelson, N. A.: Marriage and the Laboratory, *Am. J. Syph.* 23:288 (May) 1939.
3. Moore, J. E.: Physical Examination Laws for Syphilis, *Am. J. Syph.*, *Genit. & Ven. Dis.* 23:386 (May) 1939.

6. Nobl, G.: Ueber das Schicksal maligner Alopecien, *Wien. klin. Wchnschr.* 48:205-207 (Feb. 15) 1935.

7. Kepler, E. J., and Randall, L. M.: Fundamental Concepts in Endocrine Diagnosis and Therapy, *M. Clin. North America* 24:941-952 (July) 1940.

8. Danforth, C. H.: Physiology of Human Hair, *Physiol. Rev.* 19:94-111 (Jan.) 1939.

data are not at present available and from their very nature are not likely to become available in the near future. It is necessary, therefore, to depend on laboratory statistics for an evaluation of the results of premarital legislation.

Tactful questioning indicates that the majority of the group presenting themselves for examination assumed that they were free from syphilis. Persons who know that they are infected do not apply for premarital examination in states having such laws.² It is interesting to note the eventual fate of those refused marriage licenses. New Jersey reported on 206 positive reactors. Of these 113 were judged infectious and refused certificates, 71 gave up marriage, 18 were married out of the state and the action of the remainder is not known. Three months after the examination 135 of the original group were found to be under treatment.

A report³ from Connecticut covered the years 1936 to 1939, inclusive. During this four year period 596 cases of syphilis were discovered among premarital applicants and the applicants were given treatment. Many of these persons were apparently considered noninfectious and were issued certificates after signing an agreement to accept adequate treatment. Cases of congenital syphilis in patients under 1 year of age totaled 38 in 1936, 24 in 1937, 16 in 1938 and only 11 in 1939. It is hardly justifiable to attribute this decrease in the incidence of congenital syphilis to the enforcement of the premarital law in Connecticut, but the progressively declining figures are at least suggestive.

THE WEST VIRGINIA REPORT

As indicated by the figures recorded in the accompanying table the incidence of syphilis in the premarital group in West Virginia (2.4 per cent) would appear to be higher than the incidence shown in any other state report now available. This is of interest, as West Virginia is the first Southern state to present any statistics of this type.

During the first six months of operation of the law in West Virginia (1,600 cases) the incidence of positive reactions was 4.2 per cent. It has steadily declined to the present figure (2.4 per cent). It is probable that as the accumulation of a larger number of examinations provides a broader base for analysis the incidence in this state will approximate the average incidence (1.3 per cent).

The private laboratories in West Virginia continue to perform the major portion of the premarital blood examinations. The state hygienic laboratory carried out 3,807 (3.1 per cent positive) examinations. Thirty-seven of the fifty-two private "approved" laboratories replied to the questionnaire and reported the examination of 6,116 (1.9 per cent positive) blood specimens. This is in contrast to the reports from other states, where most of the laboratory work has been done by city and state laboratories.

The premarital law has been well received by both the public and the physicians of West Virginia. I am aware of no major difficulties which have arisen as the result of its enforcement. The provisions of the statute leave much to the judgment and discretion of the individual physician. I believe that the medical profession has assumed these obligations and is carrying out the letter and spirit of the law in a sincere and conscientious manner.

GENERAL COMMENT

The detection and adequate treatment of every person with syphilis in the general population is acknowledged to be a desirable goal toward which to direct one's efforts. There is no reason to believe that infectious syphilis does not exist in the population of marriageable age. It would seem logical, in view of the far-reaching effects of conjugal and congenital syphilis, that case finding in the premarital group should be even more necessary than in the general population.

The figures presented previously would indicate that 9,017 persons preparing to marry presented at least laboratory evidence of syphilitic infection. These figures are from thirteen states only and cover a relatively short period of time. In the age group under

*Results of Premarital Legislation in Thirteen States**

State	Law in Effect on	Total Number Examined	Number with Syphilis †	Percentage with Syphilis
California.....	9/19/39	23,654 (Sept. 29-Dec. 31, 1939)	404	1.7
Colorado.....	10/10/39	2,973 (1939)	44	1.5
Connecticut.....	1/ 1/36	20,424 (1939) 17,732 (1938) 16,601 (1937) 14,601 (1936)	207 106 112 81	1.01 1.23 0.85 0.6
Illinois.....	7/ 1/37	49,271 (1939) 39,435 (1938) 30,298 (July 1-Dec. 31, 1937)	577 782 479	1.2 1.9 1.5
Michigan.....	10/29/37	5,150 (January 1940) 41,762 (1939) 34,439 (1938) 3,828 (November-December 1937)	68 308 423 52	1.3 0.9 1.2 1.4
New Hampshire.....	10/ 1/38	14,420 (Oct. 1, 1938-March 8, 1940)	102	0.8
New Jersey.....	7/ 1/38	42,944 (July 1938-March 1939)	624	1.4
New York (upstate).....	7/ 1/38	36,459 (July-December 1939) 58,883 (6 mo. 1938) 141,148 (1939)	541 797 2,342	1.5 1.4 1.7
North Dakota.....	3/13/39	5,641 (July 1939-February 1940)	25	0.4
Rhode Island.....	4/28/38	816 (January-February 1940) 8,782 (1939) 4,734 (April-December 1938)	5 96 75	0.6 1.1 1.6
South Dakota.....	7/ 1/39	4,885	35	0.7
Wisconsin.....	.....	46,431	295	0.6
Wiswaukee.....	.....	2,568 (23 mo.)	49	1.9
West Virginia.....	5/26/39	9,923 (12 mo.)	238	2.4
		677,822	9,017	1.3

* Tabulation of Edwards² corrected and brought up to date.
† All cases labeled "doubtful" have been excluded in the totals.
‡ It is probable that the term "positive" was employed to include all degrees of positivity in these figures.

consideration infection is necessarily of fairly recent origin. This would indicate the likelihood of a high proportion of potential infectiousness in those cases unearthed by the premarital dragnet. It is reasonable to suppose, therefore, that a definite percentage of the positive reactors were capable of transmitting syphilis to their prospective marital partners. It is impossible at present to estimate this proportion. When one considers the total number of syphilitic persons contemplating matrimony, as revealed by this incomplete report, it is impossible to escape the conclusion that the operation of premarital legislation has already prevented a large number of conjugal infections as well as the production of syphilitic offspring. If the accumulation of further data confirms this preliminary impression the objections previously recited must be considered to be of relatively slight importance, valuable principally as suggestions for the improvement of existing statutes.

2. Edwards, Mary S.: Premarital Examination Laws in Operation, *J. Social Hyg.* 26:217 (May) 1940.
3. Talbot, H. P.: Four Years of Premarital Blood Test Law, *Connecticut Health Bull.* 54:211 (Aug.) 1940.

The administration of premarital laws requires the application of common sense by conscientious physicians. The fact that some of the legislation is imperfect does not mean that it is undesirable. It provides a valuable means of detecting syphilis in a group in which such detection is of the utmost importance.

SUMMARY

1. Reports of 677,832 premarital blood examinations have been received from thirteen states; of the persons examined, 9,017, or 1.3 per cent, gave positive reactions.

2. A high proportion of the persons found to have syphilis were unaware of their infection.

3. The incidence of syphilis in the premarital group is fairly uniform throughout the country. It is apparently lower than the incidence of cases in the general population. This difference may be apparent rather than real, as persons who know that they have syphilis probably do not apply for examination.

4. The premarital law in West Virginia has proved acceptable to a large majority of the medical profession and the general public.

5. It is believed that the favorable results accruing from the enforcement of premarital legislation far outweigh the admitted theoretical objections which have been advanced.

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GRAFTS OF PRESERVED CARTILAGE IN RESTORATIONS OF FACIAL CONTOUR

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AND

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DETROIT

Our purpose in this paper is to consider the materials that may be used as the foundation on which to reconstruct deformed faces. A brief presentation is made of the experiences encountered by us with 100 consecutive cases in which grafts of preserved homocartilage were employed. It is felt that this subject is of importance at this time because the conclusions reached are applicable in war injuries as well as in industrial and domestic accidents.

HISTORY

Medical literature for the past century is dotted with reports of various materials that have been used as the supportive structure on which to rebuild facial contour. Among the materials mentioned may be found such items as ivory, bronze, steel, paraffin, silver, celluloid, fat,¹ cartilage,² dermis,³ fascia, bone and practically anything that may be formed into a shape to fill out the defect in question.

By a process of elimination, based on results obtained, there has been a gradual tendency to discard all inert substances and all tissues except those tissues of mesodermal origin. In Peer's² most recent work, he stated that "unfortunately the human body resents the pres-

ence of foreign material, and when it is used there occurs a slow but progressive action in the surrounding host tissue which eventually results in expulsion of the implant."

The use of inert materials always seems to have a generally unfavorable termination, but the transplantation of tissues from one organism to another seems to have promise, since there is a difference in degree of reaction of different tissues in different environments. It is this difference of "degree" of reaction wherein lies the hope of scientifically using a material not of the host (literally a foreign substance) for the purpose of reconstruction.

Since transplants of the type under discussion are for the replacement of mesodermal structures of a supportive nature (that is, bone and cartilage), then it is logical to assume that bone and cartilage are the materials to be considered for replacement.⁴ Of the two, cartilage possesses the lower metabolic rate—not even requiring blood vessels to carry on its metabolism.⁵ It is this low metabolic rate and similarity of chemical structure to other mesenchymal tissues that make bone and cartilage the only substances that can be rightfully considered in the peculiarities of reconstructive surgery. With the mechanical advantages favoring cartilage, together with the physiologic advantages of a lower metabolic rate and a less highly developed differentiation of the tissue itself, it may be assumed that the question resolves itself into one of how cartilage may be used to the best advantage.

INDIVIDUALITY DIFFERENTIAL

When tissues are transplanted from one organism to another, or merely transferred from one position to another in a given host, there is a difference in degree of reaction. To discuss this phenomenon in the light of existing literature, a brief review of the terminology is necessary.

By transplantation is meant that there is complete or partial separation of a piece of tissue or organ from its normal connection and its transfer to a different place, either in the same individual (autograft), into another not directly related individual of the same species (homograft) or into an individual belonging to a different species or class of animal (heterograft).⁶

All tissues possessed by a given individual have certain chemical characteristics in common. Such things as immune bodies, hormones, vitamins, agglutinins and waste products, together with the inorganic chemical components, may enter this classification, but they do not constitute its major component. As far as the specific chemical characteristics are concerned, there may be an interchange of position of tissues within the individual without any undue reaction from these specific entities.

The chemical characteristics that are held in common by all tissues of a given individual are termed collectively the individuality differential. This common characteristic distinguishes one individual from all others, no matter how closely related otherwise, in a manner analogous to finger prints that set each man aside from his fellows.⁷

1. Gurney, C. E.: Experimental Study of the Behavior of Free Fat Transplants, *Surgery* 3: 679, 1938. Figli, F. A.: Depression of Frontal Region, *Fat Transplant*, S. Clin. North America 11: 831, 1931.

2. Peer, L. A.: Types of Buried Grafts Used to Repair Deep Depressions in the Skull, *J. A. M. A.* 115: 357 (Aug. 3) 1940. Pierce, G. W., and O'Connor, G. B.: Refrigerated Cartilage Isografts, *Surg., Gynec. & Obst.* 67: 796, 1938.

3. Peer, L. A., and Paddock, Royce: Histologic Studies on the Fate of Deeply Implanted Dermal Grafts, *Arch. Surg.* 34: 268 (Feb.) 1937. Straatsma, C. R.: Use of the Dermal Graft in the Repair of Small Saddle Defects of the Nose, *Arch. Otolaryng.* 16: 506 (Oct.) 1932.

4. Ullman, E.: Dekortisation des Hodens nach vorausgegangener beiderseitigem Steinachschem und beiderseitigem Dopplerschen Verfahren, *Wien. med. Wchnschr.* 79: 1227, 1929.

5. Maximow, A. A.: *A Text Book of Histology*, Philadelphia, W. B. Saunders Company, 1930, p. 189.

6. Leob, Leo: Transplantation and Individuality, *Physiol. Rev.* 10: 547, 1930.

7. Leob, Leo: The Grafting of Tissues into Nearly Related Individuals in the Rat and Mode of Inheritance of Individuality Differential, *J. M. Research* 33: 393, 1918; *The Biological Basis of Individuality*.

The further removed the relationship of individuals the fewer chemical characteristics the individuals have in common, and in attempting transplantation of tissues between individuals the presence of these unlike chemical characteristics in donor and host is the basis for reaction. Axiomatically, then, the more distant the relationship, the more violent must be the reaction when the dissimilar tissues are brought together.

Since all possible gradations of relationships between donor and host are found, then, correspondingly, all possible intensities and kinds of reactions may be expected when tissues are transferred.

To carry the point one step further, it may be said that the less developed the organism, the more likelihood of success with transplants of tissue. Without our going into the details as to methods, the works of Born,⁸ Rand and Browne⁹ and Ullman,⁴ together with others, may be of assistance in understanding the problem in hand by our quoting their collective conclusions: "That, in general, transplantability increases with the ontogenetic and phylogenetic primitiveness of the organisms which serve as hosts and donors."

ORGAN AND TISSUE DIFFERENTIAL

When tissues are transplanted from one individual to another, a certain reaction is anticipated, owing to the chemical differences of the individuals themselves (i. e., individuality differential). If, for example, however,

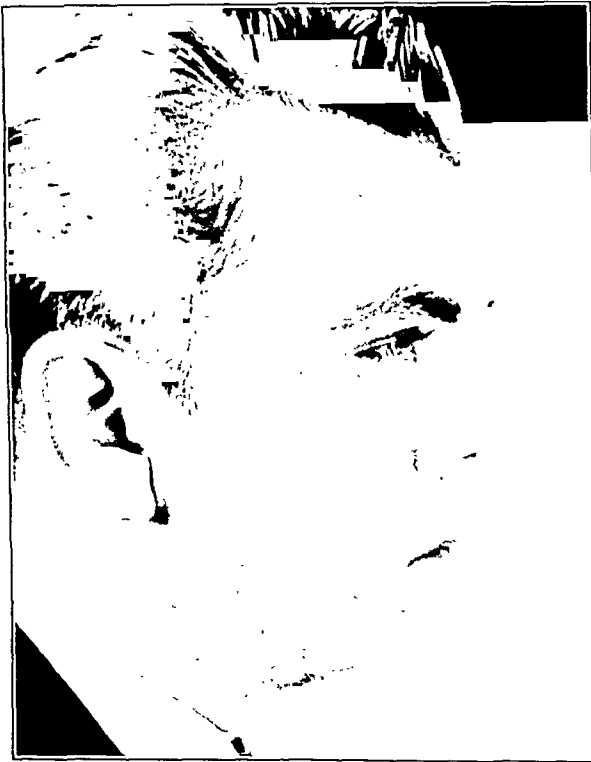


Fig. 1.—An early childhood injury, resulting in a septal abscess, caused this boy's saddle nose. The deformity was such that the normal air passages were restricted; the restriction may have been an etiologic factor in the underdevelopment of the chin. The resulting deformity was a decided handicap.

tissue from the thyroid is transferred from one individual to another and cartilage also transferred under the same conditions, the end results will not be the same.

8. Born, G.: Ueber Verwachungsversuche mit Amphibienlarven, Arch. f. Entwicklunsgnischm. d. Organ. 4: 350, 1896-1897.
9. Rand, H. W., and Browne, E.: Inhibition of Regeneration in Planarian by Grafting, Proc. Nat. Acad. Sc. 12: 575, 1926.

The chemical characteristics of the individual will be the same toward one another, but the added reaction of the difference in chemical composition of the organs or tissues themselves will be added. In other words, the organ or tissue differential now enters the picture.



Fig. 2.—At one operation, the saddle nose and receding chin were reconstructed with preserved cartilage. Three large pieces were necessary to build out the chin, together with a dorsal and columellar strut to the nose. It would have been difficult to obtain the massive amount of cartilage necessary for this operation from the patient himself. It is felt that his chances in life have been greatly improved by the more pleasing facial configuration.

Success in transplantation of whole appendages, organs and massive pieces of tissue, as for example in experimental embryology on frogs, is not an indication of what will happen when like experiments are attempted in human beings or higher vertebrates. The lack of understanding in applying the knowledge gained from laboratory experiments to possible similar undertakings in human beings, such as the transplantation of ears from mother to son or the transference of fingers from one human being to another or other plastic procedures, is bound to lead to total failure¹⁰ because it involves both individuality differential and organ and tissue differential. This one fact has led to many a sad and disheartening experience encountered by the plastic surgeon wherein a patient has demanded for himself results that might be obtained only in experimental animals. This disillusionment of the patient is made more tragic by the false hope instilled in him by the misguided enthusiasm of those erroneously interpreting the literature.

TOXINS DUE TO GRAFTS

Since the products of metabolism in transplanted tissue are toxic to the host, they are spoken of as autotoxins, homotoxins or heterotoxins, the appellation

10. Loeb, Leo: The Biological Basis of Individuality, Science 86: 1, 1937. Famulener, L. W.: On the Transmission of Immunity from Mother to Offspring, J. Infect. Dis. 10: 332, 1912.

depending on the type of graft under consideration. Just which constituent or constituents make up the toxic products in this reaction is not clear, nor is their duration of activity definite.¹¹

With the foregoing information as a basis, an explanation for the various tissue reactions may be



Fig. 3.—This girl, aged 15, refused to go to school because of the shape of her nose. The deformity resulted from a fall two years previously in which her nose was fractured and the septal support lost.

stated as follows: Different tissues, including cartilage, react differently when transplanted from one organism to another or when merely transplanted in different locations in the original host, both in experimental animals and in human beings, for the following reasons: first, the difference in the chemical characteristics that go to make up the individual—the individuality differential; second, the difference in the chemical characteristics that go to make up the individual tissue or organ—the organ or tissue differential, and third, the difference in metabolic rate of different tissues and the variable rate at which they produce metabolic waste products.

The next question that arises is relative to the advantage that cartilage has over other tissues in relation to the degree of tissue reaction.

It has been found, in animal experimentation,¹² that autotransplantation of unpreserved cartilage is carried out with success to the extent that the cartilage may be said to have returned to a normal state; this statement cannot be made for such tissues as fat, thyroid and muscle. In homotransplants of unpreserved cartilage, there forms as a rule a thick layer of fibrous tissue, but the cartilage itself remains largely intact although isolated parts of it may become necrotic because of trauma. Certain parts of the cartilage are

less resistant, especially the large cells that immediately adjoin bone; these usually perish after homotransplantation, while they may be preserved after autotransplantation. In the heterotransplants of unpreserved cartilage, the necrosis is more extensive, resulting in the complete disappearance of the graft in a few weeks.

After the homotransplantation of cartilage, the rise in the polymorphonuclear leukocyte count is lacking entirely, or almost so. The amount of homotoxins given off is apparently insufficient to reach the threshold necessary to cause a rise, whereas other tissues do cause a considerable increase in these cells.

Homoreactions seem to appear only around living and therefore metabolizing transplanted tissue, whereas the heteroreactions appear even around dead or non-metabolizing tissue. Siebert¹³ found that homotransplants, killed before transplantation by mild degrees of heat, no longer elicit a homoreaction, while heterotransplanted tissue, under the same condition, still calls forth a definite heteroreaction on the part of the tissue of the host.

Of cartilage specifically it may be stated that it gives off less homotoxic substances than practically any other tissue, but it too may be destroyed eventually by the invasion of the host's connective tissue—a sign that even cartilage has some form of action injurious to the host. It is this relative failure to produce homotoxic substances that makes cartilage more



Fig. 4.—Preserved cartilage was used to obtain a satisfactory result. In this case, a secondary operation was done to shorten the columellar cartilage through an incision in the mucobuccal fold. At no time was there any evidence of a reaction.

desirable than other tissues for transplanting. This is probably dependent, in part, on the low metabolic rate of cartilage and consequently a failure to produce

11. Siebert, W. J.: Auto and Homeotransplantation of Thyroid Gland into Brain of Guinea Pig. *Proc. Soc. Exper. Biol. & Med.* 26: 236, 1928.
12. Loeb, Leo: Autotransplantation and Homeotransplantation of Cartilage in the Guinea Pig. *Am. J. Path.* 2: 111, 1926.

13. Siebert, W. J.: Effect of Graded Degrees of Heat on Cartilage on Homeotransplantation and Heterotransplantation in Guinea Pigs. *Proc. Soc. Exper. Biol. & Med.* 26: 238, 1928.

homotoxins plus similarity of tissue differential which may be expressed as lack of differentiation of the tissue itself.

HISTOLOGY

How may cartilage best be used? This may be answered in part by the works on the histology of

Autografts are frequently accepted by the host in such a favorable manner that the graft continues to live as viable cartilage, but this type of graft is subject to capricious actions on the part of the host, and it may elicit a reaction of such severity that it too will eventually be lost. As has been repeatedly pointed out by others employing cartilage, it does have disadvantages when used as an autograft. Obtaining the cartilage itself may require an operation much more conducive to complications than is warranted by the reconstruction contemplated.

TABLE 1.—Types of Operation

Reconstruction of	No. of Cases
Dorsum of nose	63
Dorsum of nose and columella.....	18
Depressed malar region.....	1
Ala nasi	5
Orbital ridge	1
Receding chin	4
Saddle of lower third of dorsum of nose following sub-mucous resection	6
Columella only	5
Depressed frontal region.....	1
Ear	1

Autografts in our hands have shown a tendency to curl both in the horizontal and in the perpendicular dimension. This is particularly true if the cartilage is from a portion of the rib normally containing a greater portion of fibrous tissue.

Grafts of unpreserved homocartilage may survive transplantation as live grafts, being surrounded by a

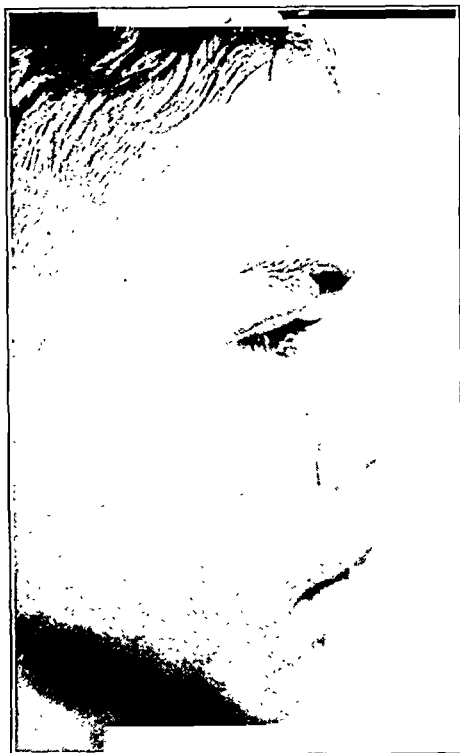


Fig. 5.—One of the greatest advantages of preserved cartilage is in the application to surgical intervention on children. Many children suffer injuries that are disfiguring. These should be corrected at an early age to counteract the development of an inferiority complex due to ridicule from thoughtless playments and relatives. Their own ribs are not well formed as yet and they readily curl and absorb if used. As a result, most of these children have been compelled to await maturity for the necessary correction. This boy is a typical example.

human beings. Peer, who has done the most complete work in this field, has found that "pickled" cartilage (preserved in 50 per cent alcohol) remains, after transplantation, as tolerated dead foreign bodies (homografts), for about nine and one-half months.¹⁴ From this time on, the surrounding tissues of the host invade the foreign cartilage and slowly absorb portions of it. This process, however, is gradual, and the bulk of the graft is still present two years after transplantation. The specimens examined by Peer at fourteen months and at two years after transplantation showed areas of calcification or early formation of bone.

In contradistinction, autogenous cartilage from the ribs survives after transplantation as living cartilage up to periods as long as six years, neither increasing nor decreasing in size. Peer further stated that he could not advocate or discourage the clinical use of grafts of preserved cartilage on the basis of his experiments. If absorption of the cartilage and replacement by fibrous tissue and bone maintains the contour of the grafts, then this may constitute a desirable filling substance even though the original cartilage itself is lost.

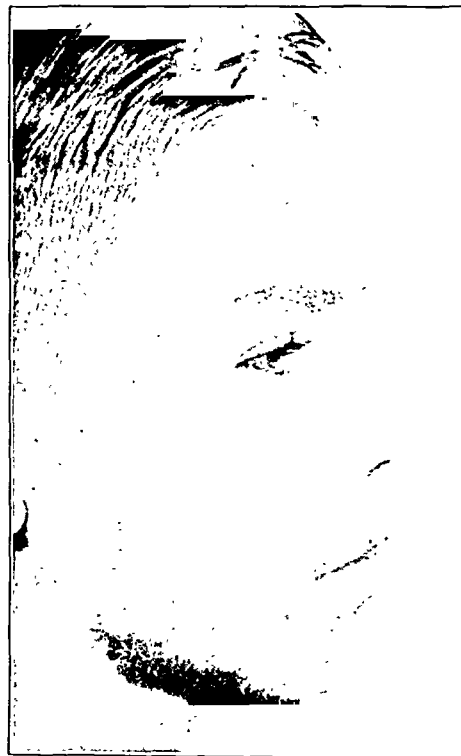


Fig. 6.—This boy, aged 13, was sensitive about his saddle nose. The deformity was corrected by the use of preserved cartilage. It is felt that all such deformities in children should be corrected to allow a more normal development of their personalities.

14. Peer, L. A.: Cartilage Transplanted Beneath the Skin of the Chest in Man, Arch. Otolaryng. 27: 42 (Jan.) 1938; The Fate of Living and Dead Cartilage Transplanted in Humans, Surg., Gynec. & Obst. 68: 603, 1939.

fibrous capsule developed on the part of the host, and a delicate balance may thus be set up whereby the graft may live, relying for nourishment on the diffusion of food products from the host. Once unfavorable factors

are introduced to upset this balance, the previously living cartilage dies and is absorbed and replaced by connective tissue.

Homografts, whether used as fresh or as preserved material, have about equal advantages as far as the question of immediate result at the site of implantation

more massive reconstructions presents a major problem to the donor. This can be true in autografts as well as in homografts. Some of the reconstructions require five or six large pieces of cartilage, and this might leave the donor embarrassed.

From the foregoing information the following statements may be formed: 1. Heterografts need not be considered in any form. 2. Autografts present many problems that make them unpractical if the results can be otherwise favorably compared to the remaining type

TABLE 2.—Complications in Nineteen Cases

	No. of Cases
Curving, bending or migration of the graft.....	7
Postoperative hematomas requiring drainage.....	5
Cartilage entirely lost after gross infection.....	3
Cartilage partially lost after gross infection.....	2
Cartilage entirely lost without evidence of infection.....	1
Cartilage retained entirely with gross infection of three weeks	1

of graft—namely, the homograft. 3. The unpreserved homograft is also not practical, as has been pointed out. This leaves the consideration of the preserved homograft.

TECHNIC

The percentage of success that may be anticipated with the use of homografts is determined from information gained by us in the review of 100 consecutive cases. In this group of cases, the period of observation extends from one and one-half to four years. The more recent cases are not included because it has been found that



Fig. 7.—Straith's profilometer can be used to measure the amount of depression in a saddle nose and indicate the shape and size of the transplant needed. It is also of great value as an aid in reducing hump noses to the proper profile angle. It makes the reconstruction of nasal deformities more uniform.

in the new host is concerned. Live homografts are transplanted with the knowledge that they will probably become at least partially necrotic and eventually be invaded by connective tissue, even though it may be more or less viable. They may live as parasites by the products of diffusion inside a fibrous capsule developed by the host, remaining only until this equilibrium is disturbed. The preserved cartilage can be placed without the necessity of an operation to obtain the cartilage, and it is known that the cartilage will not be viable but will act as a tolerated foreign body, and, because there is no active metabolism, it will not initiate such active tissue response on the part of the host.

PRACTICABILITY OF PRESERVED HEMOCARTILAGE

Preserved homocartilage seems to be the type of choice of the homografts. Large quantities may be obtained at autopsy, sterilized and stored to be used as needed. This eliminates a major operation on the new host. Furthermore, from actual experiences, it seems that cartilage of this type resists infection better than any other material.

The use of homografts without means of preservation—that is, the use of fresh homografts—has so many unpractical aspects that it hardly needs to be mentioned. To obtain a donor who will supply cartilage at the proper time is in itself a major problem. For a person to lose the amount of cartilage necessary in some of the



Fig. 8.—After insertion of the properly contoured cartilage, the nose now is seen to assume a more normal angle.

changes such as migration, curling and gross absorption can occur at a late date, and it was felt that such cases would not present a true picture of the results that might be anticipated.

All other types of cartilage, such as auricular and septal, have been discarded in favor of costal cartilage.

It is obtained during autopsy in cases in which the cause of death is known and in which the deceased person's blood is serologically normal. Middle-aged persons are preferred, as their cartilage does not present too much fibrous tissue or too much calcification. The cartilage is removed with as aseptic a technic as possible and placed in "merthiosaline" (a solution of 1 part aqueous merthiolate [1:1,000] to 4 parts of sterile physiologic solution of sodium chloride) according to the technic of Pierce and O'Connor.¹⁵

Variations from the technic just given seem to lead to poorer results. The cartilage must be preserved in such a manner that its chemical composition at the time of transplantation approximates the physiologic chemical composition of the new host. Failure to do this results in unmistakable reactions of a severe nature. Too great a concentration of mercurial salts in the cartilage may result in a purely chemical irritation in the new host. An effort to maintain as nearly as possible a physiologic solution and yet maintain sterility is the method of choice.

Biweekly cultures and frequent changes of the "merthiosaline," especially early in the preserving process, are of the utmost importance.

RESULTS IN ONE HUNDRED CASES

The cases about to be reviewed concern the use of grafts of homocartilage in and about the face. As stated before, the period of postoperative observation varies from one and one-half to four years. There will be some duplication in the figures as, in some cases, more than one type of operation was carried out on a single person.

The total number of consecutive cases reviewed is 100. Of this group, there were 81 in which there was an uneventful postoperative recovery and in which no subsequent operations or treatments were required after a period of ten days. In the remaining 19 cases, everything from local redness without a rise in temperature to frank infections with systemic reactions is included as complications. The types of operations are classified in table 1.

The complications in 19 cases in which there was some type of complication are subdivided in table 2.

From the evidence presented it is seen that 81 per cent of the patients suffered no complications. Of the remaining 19 per cent who did present complications, all retained their cartilages and eventually made a satisfactory recovery with the exception of 4 patients in whom the cartilage was lost entirely and 2 in whom the cartilage was lost in part. The 2 patients who had a partial loss of the cartilage were not reoperated on because they were satisfied with the cosmetic result. Thus 94 per cent of the grafts were classed as successful.

Seven of the patients were reoperated on to remove or trim cartilage when curving or migration had taken place. Three were reoperated on to add more cartilage to the original amount, purely for cosmetic reasons.

Of the 4 patients who lost their cartilage entirely, 2 were operated on again, preserved cartilage homografts being used, with complete success. One of the patients had had a previous operation elsewhere in which an autograft cartilage had been used and lost. This was replaced with a preserved homograft with satisfactory results.

Several patients in whom complications developed had thick, red skin containing enlarged pores filled with

secretions. These persons generally carry an unfavorable prognosis probably because, in elevating the skin, the most dependent portion of the glands (sweat and sebaceous) is cut off, allowing gross contamination of the undermined tissues.

In several cases hematomas developed after the patients had removed the splints which had been placed on the nose to maintain pressure. Premature removal of splints, together with periods of "sneezing," seemed to be the most important etiologic factor in the production of hematomas. These complications were seen most frequently in male patients.

CONCLUSIONS

In view of the biologic rationale as brought out in the opening sections of this text and the encouraging results obtained in actual practice of the technic as reviewed, it seems quite logical to accept the use of homocartilage preserved in "merthiosaline" as the basis on which to restore facial contour. Homocartilage has the great advantage of eliminating the somewhat hazardous operation of costal resection with its prolonged incapacity and morbidity.

As shown by a review of 100 consecutive cases in which homocartilage grafts were employed, 81 per cent were without complications while 94 per cent of the operations resulted in eventual success by the use of the described technic. Better results can hardly be expected with autogenous grafts, and certainly the use of no other foreign substance can compare with it.

1713 David Whitney Building.

Clinical Notes, Suggestions and New Instruments

PULMONARY LESIONS IN HODGKIN'S DISEASE

ROBERT CHARR, M.D., PHILADELPHIA, AND
ALFRED WASCOLONIS, M.D., WHITE HAVEN, PA.

The case of Hodgkin's disease which we present was interesting in that hemoptysis was one of the symptoms and in that the disease was almost entirely limited to the right lung.

REPORT OF CASE

History.—A white woman aged 23 was admitted to the White Haven Sanatorium in March 1940. She complained of pain in the right side of the chest, dyspnea, cough, expectoration and hemoptysis. The illness began in July 1939 with pain in the right side of the chest. Soon dyspnea began. Cough and expectoration with occasional hemoptysis followed.

Physical Examination.—Nutrition and color were poor. The cervical lymph nodes were palpable on both sides. The chest showed signs of effusion on the right side with displacement of the heart toward the left. The abdomen showed no masses or ascites. The blood pressure was 108 systolic and 70 diastolic. The temperature was 99 to 102 F., the pulse rate 100 to 130 and the respiratory rate 20 to 30. The weight was 81 pounds (36.7 Kg.).

Laboratory Observations.—The urine showed albumin and the blood secondary anemia with leukocytosis (22,800 cells, 90 per cent of which were polymorphonuclear leukocytes). Examination of the sputum was repeatedly negative for tubercle bacilli. The pleural fluid was yellowish and slightly turbid, and the smear and culture of it were negative for tubercle bacilli. The sedimentation rate was increased 31 mm. at the end of an hour. A cervical lymph node taken for biopsy showed a typical appearance of Hodgkin's disease, such as marked

15. Pierce, G. W., and O'Connor, G. B.: Reconstruction Surgery of the Nose, Ann. Otol., Rhin. & Laryng. 47:437, 1938; Refrigerated Cartilage Isografts.

From the Pathological Laboratory of the White Haven Sanatorium, White Haven, Pa., and the Department for Diseases of the Chest, Jefferson Hospital, Philadelphia.

increase of connective tissue, destruction of the normal architecture of the node and occasional eosinophils, but Reed cells were not found.

Röntgen Diagnosis.—The right side of the chest presented an evenly dense shadow. The left side was clear. The heart was displaced toward the left (fig. 1). Pleural effusion of unknown etiology was diagnosed.



Fig. 1.—The dense shadow in the lower two thirds of the right side of the chest suggested an effusion. The left lung appeared essentially normal. The heart was displaced toward the left side. (Courtesy of Drs. John T. Farrell Jr. and E. Robert Wiese.)

The right pleural cavity contained 0.5 liter of turbid yellowish fluid. On section the masses in the lung and hilar regions were yellowish and firm, having considerable infiltration of fibrous tissue. The central portions of the nodules were necrotic, forming cavities. In the posterior portion of the lower lobe were small nodules. The bronchial mucosa appeared thickened. The left lung was normal.

The pericardial sac contained about a liter of turbid yellowish fluid. The heart was small and the myocardium flabby. The valves were normal. The gastrointestinal tract appeared normal. The spleen was of normal size. No nodules were found. The liver was larger than the average, but no nodules were seen. The kidneys were normal. The mesenteric lymph nodes were not unusual.

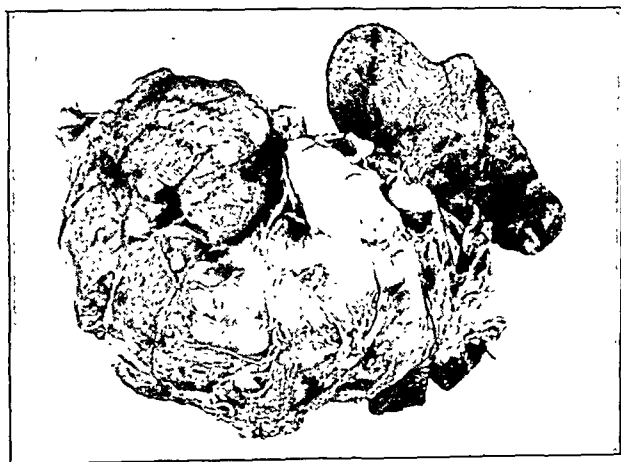


Fig. 2.—The middle lobe and the anterior half of the lower lobe of the right lung were extensively involved. The upper lobe of the right lung showed scattered nodules. The hilus lymph nodes, particularly on the right side, were greatly enlarged. The left lung was normal.

Microscopic Appearance.—The sections taken from the right lung showed marked pleomorphism. The normal architecture of the pulmonary tissue was destroyed by infiltration of lymphocytes, plasma cells and polymorphonuclear leukocytes. Several large mononuclear and multinuclear giant cells were found. These cells were undoubtedly Dorothy Reed cells. Throughout

all sections there was dense infiltration of fibrous tissue forming a heavy reticulum. Scattered throughout the sections were areas of necrosis. The hilar lymph nodes presented similar changes.

COMMENT

Hemoptysis is so rare in Hodgkin's disease that it is not discussed in the symptomatology of the disease in textbooks of medicine. Hemoptysis, together with cough and expectoration, was present in 1 of the cases reported by Moolten.¹ Post-mortem examination of this patient showed a massive polypoid growth occluding the right main bronchus. The spitting of blood in this case was apparently due to erosion of the polyp.

In our case, although there was no bronchial growth, there was considerable thickening of the bronchial mucosa suggesting granulomatous infiltration of the mucosa. Apparently spitting of blood was the result of an erosion of the diseased mucosa. The exact site of hemorrhage was not discovered.

The close similarity of the general symptomatology of Hodgkin's disease to that of pulmonary tuberculosis has long been recognized. In this case the presence of hemoptysis in addition to the pleural effusion, cough and expectoration brought about some difficulty in establishing a differential diagnosis.

Pulmonary involvement in Hodgkin's disease occurs in 40 (Verse²) to 60 (Moolten¹) per cent of cases. Kraus³ expressed the belief that the pulmonary involvement is part of the general manifestation of the disease. However, there are reports of cases² in which the clinicopathologic studies indicated that the disease probably started in the lung itself. Our case appears to be one of these.

SUMMARY

In a case of Hodgkin's disease of the lung, hemoptysis was a symptom. Although the anatomic involvement was extensive, it was almost entirely limited to the right lung.

236 Pine Street.

RECURRENT TETANUS SUCCESSFULLY TREATED WITH AZOSULFAMIDE

FREDERICK LEMERE, M.D., AND J. S. ARNASON, M.D.
SEATTLE

The following case is presented because of its significance to wartime medicine. Tetanus is comparatively rare in civil life, and there has been little opportunity to observe the effect of the new sulfonamide preparations in this disease. In the case here reported 110,000 units of tetanus antitoxin was given for the original attack, with recurrence eighteen days later. The second attack was successfully treated with azosulfamide.

REPORT OF CASE

History.—A youth aged 19, a mill worker, seen with Dr. E. M. Chew in consultation, was admitted to the Ballard General Hospital July 29, 1940 with headache, nausea, vomiting, numbness of the hands and chin, abdominal pain, inability to void, mild delirium and tetanic convulsions. The mode of infection was uncertain. A week before he had chafed his thighs while riding a horse and two or three weeks before had bruised a toe and injured a finger while working.

The temperature was normal on admission but rose to 103 F. on the second day and dropped to normal again after the fourth day. Laboratory data were negative, including those on the level of calcium in the blood, the spinal fluid and neutralization tests for encephalomyelitis virus, except that the white cell count was 13,200.

Progress.—A diagnosis of tetanus was made and the convulsions were controlled with sedatives. During the first four days of hospitalization a total of 20,000 units of tetanus antitoxin was given intraspinally, 70,000 units intravenously and 20,000 units intramuscularly. The convulsions stopped on the fourth day and the patient was discharged as having recovered on the thirteenth day.

1. Moolten, S. E.: Hodgkin's Disease of Lung, *Am. J. Cancer* 11: 253-294 (June) 1934.
2. Verse, M., in Henke, F., and Lubarsch, Otto: *Handbuch der speziellen pathologischen Anatomie und Histologie*, Berlin, Julius Springer, 1931, vol. 3, pt. 3, p. 280.
3. Kraus, F., cited by Verse.²

He went back to work, but on August 20 (eighteen days after his last convulsion and treatment with serum) he had a recurrence of the original symptoms, including convulsions. He was readmitted with a temperature of 100 F., which returned to normal the next day. He was given azosulfamide and sedatives and recovered in four days and has been well since. No antitoxin was used in treating the relapse.

COMMENT

Antitoxin has neither a bactericidal nor a bacteriostatic action on the tetanus organisms in the focus of infection. Its action is limited to neutralization of unattached toxin, and only as long as it is present in the circulating fluids in sufficient concentration will it protect the nervous tissues from further damage. The antitoxin must be kept at sufficient concentration as long as toxin is forming at the focus of infection.

Apparently in this case the focus of infection remained active and produced a recurrence of symptoms eighteen days after the last dose of antitoxin. Azosulfamide eliminated this focus and produced recovery without further use of tetanus antitoxin.

SUMMARY

In the case of tetanus presented the symptoms were temporarily controlled by 110,000 units of tetanus antitoxin. Eighteen days later, however, the symptoms recurred. The recurrence was successfully treated with azosulfamide.

706 Medical and Dental Building—2208 Market Street.

DEATH FROM TRANSFUSION OF PLASMA

FRANK MAYNER, M.D., WYANDOTTE, MICH.

Reports of deaths due entirely to transfusion of whole blood are fairly rare. Reports of deaths due entirely to transfusion of plasma are still more rare. I have been unable to find any report of a fatality due to plasma transfusion in the English literature between the years 1927 and 1940. The lack of such reports may be explained by the only too recent enthusiasm over and use of transfusions of plasma.

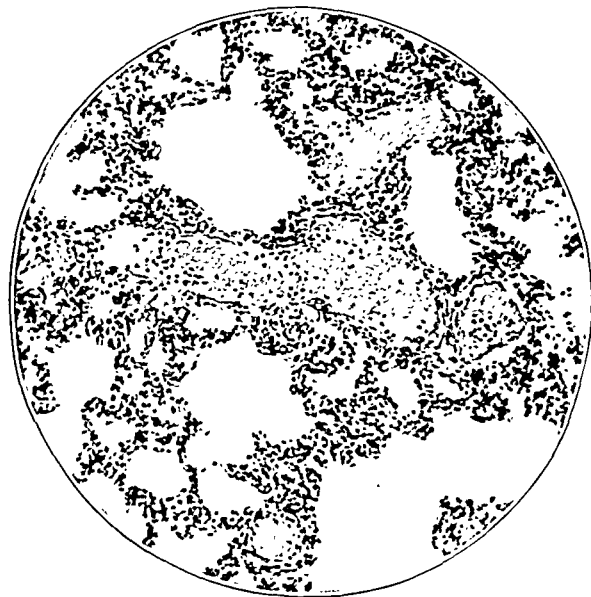


Fig. 1.—Emboli in terminal vessels and capillaries of lung. Reduced from a photomicrograph with a magnification of 100 diameters.

REPORT OF CASE

A boy aged 4 years entered the hospital on July 31, 1940 because of severe edema. He had been perfectly well until one week before entry, when he acquired a cold the only manifestation of which was a running nose. He did not have a cough, sore throat, rash, articular pains, dyspnea or pains in the chest. Four days before entry he had edema of the ankles which

gradually became generalized. One day before entry it was noticed that the urinary output had diminished. Chickenpox was the only other infectious disease that the patient had had. One brother had died with similar symptoms.

The child assumed the orthopneic position at all times. The blood pressure was usually 120 systolic and 80 diastolic.

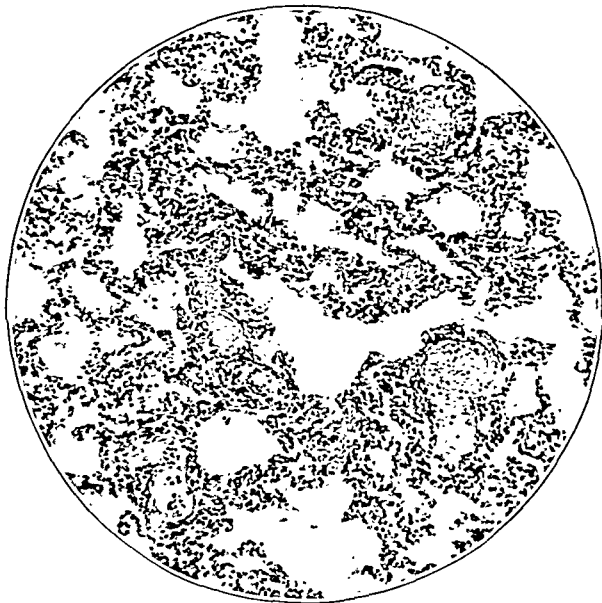


Fig. 2.—Emboli in terminal vessels and capillaries of lung. Reduced from a photomicrograph with a magnification of 100 diameters.

Ophthalmoscopic examination gave essentially negative results. Laboratory examination of the urine revealed a large amount of albumin, 2 to 5 white blood cells, 1 to 5 red blood cells and 3 to 6 hyaline, waxy and finely granular casts per high power field. The blood showed 4,520,000 red blood cells per cubic millimeter, 9,100 white blood cells per cubic millimeter, 92 per cent hemoglobin, 51 per cent filamented neutrophils, 7 per cent nonfilamented neutrophils, 40 per cent lymphocytes, 1 per cent eosinophils and 1 per cent basophils. The nonprotein nitrogen level was 26 mg. per hundred cubic centimeters; the total plasma protein was 5.6 Gm. per hundred cubic centimeters, the total plasma albumin was 5.04 Gm. and the total plasma globulin was 0.5 Gm. per hundred cubic centimeters.

Many forms of treatment were instituted. These consisted of dextrose given intravenously; a pneumonia jacket; magnesium sulfate, ammonium chloride and sodium bicarbonate given orally; salyrgan given rectally; a high protein diet, and potassium chloride substituted for sodium chloride in the diet. It was likewise thought advisable to give the patient a transfusion of whole blood. The blood of the patient and the father belonged to Landsteiner class A and cross matched without agglutination. Two hundred and fifty cc. of citrated whole blood was given without any untoward effect. The patient was discharged from the hospital two months after entry with improvement of his edema and urine free from albumin.

After being home for fifty-six days, the patient reentered the hospital because of an infection of the upper part of the respiratory tract which evidently aggravated his edema. This infection promptly subsided. The urine again contained a large amount of albumin and casts. The total plasma protein was 3.16 Gm., the total plasma albumin was 1.82 Gm., the total plasma globulin was 1.34 Gm. and the nonprotein nitrogen was 26.3 mg. per hundred cubic centimeters. The patient was usually sitting up in bed and playing with his toys. The treatment consisted of limiting fluids, restricting salt intake, applying heat to the renal region and giving ammonium chloride orally. It was also thought advisable to give the patient a transfusion of plasma so as to increase his plasma proteins. One hundred and ten cc. of plasma was prepared as follows: The blood of the same donor (the boy's father) was used without cross matching. Fifty cc. of 2.5 per cent sodium citrate in isotonic saline

solution was mixed with 450 cc. of blood and placed in a sterile flask. Two days later the plasma was suctioned off with a sterile needle and syringe and placed in a sterile flask. Six hours later the plasma was administered undiluted without being filtered at a rate of approximately 5 cc. a minute.

After twenty to twenty-five minutes, with about 90 to 100 cc. of plasma having been administered, the patient suddenly became cyanotic and dyspneic, gasped for breath and died despite the administration of stimulants.

AUTOPSY

The gross changes noted at autopsy were as follows: Generalized edema, ascites (500 cc. of clear, colorless fluid) and dilatation of the right side of the heart. The blood squirted up a distance of 7 inches (18 cm.) when the pulmonary artery was cut. There were petechial hemorrhages of the visceral pleura and the epicardium. The kidneys grossly were within normal limits.

Microscopic examination showed multiple emboli of fibrin in the terminal pulmonary vessels and capillaries, as seen in the illustrations, and subacute glomerular nephritis.

COMMENT

The immediate cause of death of this patient was anoxemia due to multiple emboli of fibrin in the capillary system of the lungs. There are only two possible explanations that I can suggest for the resulting condition. The first is improperly prepared and administered plasma. In this case the plasma was evidently prepared satisfactorily, but the failure to use a filter at any time during the procedure cannot be overlooked. This can most certainly explain the presence of fibrin in the lesser circulation. The second consists of using the same donor twice after an interval of only a month or so. This interesting fact was brought out by Plummer¹ and Gutteridge,² who gave whole blood from the same donor to the same patient after a month's rest with similar immediate fatal results. In this case, the interval between the two transfusions was about two and one-half months.

In most of the cases in which death was due to transfusion autopsy has shown hemolysis, hemochromatosis of the kidneys, nephrosis and uremia. I have been unable to find a report of a similar case in the literature.

Wyandotte General Hospital.

SUCCESSFUL SUBLINGUAL THERAPY IN ADDISON'S DISEASE

A CONFIRMATIVE REPORT

DAVID TURNOFF, M.D., AND LEONARD G. ROWNTREE, M.D.
PHILADELPHIA

The recent report of Haymaker and his associates concerning the successful sublingual treatment of Addison's disease with desoxycorticosterone acetate in propylene glycol finds confirmation in our experience in 2 advanced cases of this disease. The patients were given 1 mg. (6 drops) under the tongue six to seven times daily; this preparation was retained for fifteen minutes and then expectorated. Salt was utilized also in the early part of the study but because of edema was discontinued. The good effects observed, we believe therefore, were due entirely to desoxycorticosterone acetate.

REPORT OF CASES 1

CASE 1.—A. S., a white woman aged 43, ailing since 1935, admitted to the Philadelphia General Hospital on Sept. 20,

1. Plummer, N. S.: Six Fatalities from Transfusion, Brit. M. J. 2: 1186-1189 (Dec. 12) 1936.

2. Gutteridge, N. M.: Recent Advances in the Pathology of Transfusion, M. J. Australia 1: 585-589 (April 27) 1940.

From the Philadelphia Institute for Medical Research and the Philadelphia General Hospital.

Ciba Pharmaceutical Products, Inc., provided the medication employed, and the American Philosophical Society gave financial aid from the Daland Fund.

1. These patients were treated in the services of Drs. T. G. Schnabel and D. W. Kramer, respectively, of the Division of Medicine, Philadelphia General Hospital.

1940 complained of anorexia, weakness and a loss of 45 pounds (20.4 Kg.). The pigmentation of the skin and buccal mucous membrane was characteristic. Her blood pressure was 94 systolic and 72 diastolic. A test for the excretion of chloride yielded positive results, and in addition the patient did poorly on a salt-poor diet. She was given Swingle's extract of the adrenal cortex, became stronger and improved clinically in every respect. Intramuscular treatment with desoxycorticosterone acetate, 5 mg. daily given in sesame oil, was also successful. She was then given the old Muirhead regimen: epinephrine to the point of tolerance, by all available routes for ten days. On this regimen she lost weight—from 106¼ to 101½ pounds (48.4 to 46 Kg.)—and became distinctly weaker, and her blood pressure dropped from 102 systolic and 60 diastolic to 90 systolic and 60 diastolic. At this time the sublingual administration of desoxycorticosterone acetate was begun, 6 drops under her tongue being given six times a day, at intervals of three hours. In the beginning she was given in addition 5 Gm. of sodium chloride daily, but later, because of edema, no extra salt was employed. On this regimen she gained weight, her appetite increased and her blood pressure rose. The good effects were repeated after an interlude of two weeks of receiving desoxycorticosterone acetate intramuscularly. At the present time she has been adequately maintained for more than a month with the oral preparation. During the latter period of trial she has been taking 5 drops seven times a day. Her blood pressure is maintained at a satisfactory level, she has gained weight and strength and she feels quite well. Rehabilitation is satisfactory.

CASE 2.—M. H., a white woman aged 44, slightly built, was first admitted to the hospital in February 1939 complaining of nausea after eating. She was nervous and dyspneic on exertion. Her blood pressure was 110 systolic and 75 diastolic, and she exhibited some tenderness over the abdomen, in the costo-vertebral angles and along the long bones and the peripheral nerves. She was discharged with a diagnosis of neurasthenia.

She was readmitted in May 1940 complaining of weakness, fatigue, anorexia, vomiting, vertigo, dyspnea on exertion, swelling of the ankle, loss of weight and abnormal pigmentation of the skin and of the lingual and buccal mucous membrane. Her blood pressure was 82 systolic and 50 diastolic. On a regimen of a diet low in potassium and high in sodium and of adrenal cortex extract she improved immediately and was discharged in June 1940 with a diagnosis of Addison's disease.

On a similar regimen, as an outpatient, she continued to feel well. When, however, her dose of adrenal cortex extract was reduced she began to become ill and her blood pressure to drop. She was therefore readmitted to the hospital on November 8, at which time her blood pressure was 76 systolic and 54 diastolic, but otherwise her physical examination revealed no new changes. Various preparations were used, as in case 1, in an effort to observe the comparative effectiveness of different regimens. She did badly with the Muirhead regimen and satisfactorily with sublingual therapy. She was finally discharged (Jan. 8, 1941) from the hospital, taking a house diet, without extra salt, and desoxycorticosterone acetate by mouth in doses of 5 drops seven times a day. She has been taught to keep the material under her tongue and then to spit it out after fifteen minutes. After one month of following this plan she feels fine, her appetite is one month of following this plan the patient feels fine, her appetite is good and she is no longer lacking in vitality; objectively her weight has been maintained and her blood pressure has increased.

In this report we do not wish to compare the efficacy of the various materials used but rather to call attention to the success attending sublingual therapy and thereby to encourage further clinical trial.

In using the oral route, we have had the same experience recorded by other workers for the intramuscular use of this preparation, viz. the development of edema in both patients when additional sodium chloride was employed. When no extra sodium chloride was given, edema did not appear.

Thirty-Fourth and Pine streets.

PEMPHIGUS VULGARIS: FAILURE OF TREATMENT WITH
RIBOFLAVIN AND SMALLPOX VACCINE

STEWART WOLF, M.D., AND GEORGE M. LEWIS, M.D., NEW YORK

An encouraging report of the treatment of pemphigus vulgaris was recently made by Topping and Knoefel.¹ They administered to their patient orally a flavin concentrate containing 970 Sherman-Bourquin units, or approximately 2.5 mg. of riboflavin daily. This patient had previously been treated by them with neocarsphenamine and sulfanilamide without success. After the administration of riboflavin had been started, however, the lesions cleared up and the patient remained well for several weeks. Later, after treatment was discontinued, the patient suffered a recurrence.² When the drug was resumed, this time in the dose of 5 mg. daily, the lesions cleared up again, and the patient has been apparently well since, nearly fourteen months after the institution of riboflavin therapy.²

On the strength of this favorable report, and since pemphigus is still considered a fatal disease, a patient in the New York Hospital suffering from pemphigus was treated for eleven days with 100 mg. of riboflavin (Merck) by mouth daily, forty times the dose used by Topping and Knoefel. In contradistinction to their patient, who showed improvement at once and suffered no new lesions after the start of treatment, our patient showed no perceptible benefit from the drug and continued to have new lesions. He finally contracted bronchopneumonia and died.

Another therapeutic measure which deserves some comment was tried on our patient. As we were working on the assumption that Grace's³ demonstration of a virus being etiologically concerned with pemphigus was correct, it seemed rational to try nonspecific vaccine therapy in this case. The therapeutic value of smallpox vaccine in the treatment of recurrent herpes simplex is well known.⁴ Accordingly the patient was given five injections of 0.1 cc. of ordinary smallpox vaccine subcutaneously and five injections of 0.1 cc. of Rivers' vaccine⁵ intradermally, without noticeable effect.

REPORT OF CASE

History.—An Austrian Jew aged 53, a bookkeeper, living in the United States for only nine months when he was admitted to the New York Hospital, June 14, 1940, complained chiefly of progressive involvement of the skin with bullae for eight months. His past and his family history were not contributory. The present illness began in October 1939. At that time bullae first appeared in small numbers on apparently normal skin of the trunk and extremities. They came in crops, leaving crusted raw areas which healed poorly. Similar lesions appeared in the mouth and throat. They made for a great deal of discomfort in eating and frequently bled a little. Later the left eye and eyelid became involved in a similar process. Meanwhile the lesions over the trunk and extremities were becoming more numerous. The patient had lost 35 pounds (15.9 Kg.) since the onset of the disease.

Examination.—Physical examination on admission showed him to be emaciated, acutely ill and uncomfortable. His whole body was virtually covered with rounded, denuded, crusted and often secondarily infected lesions. There were a few fresh bullae in areas of apparently normal skin. These varied in size from 1 to 6 cm. in diameter. The Nikolsky sign was present. Touching the open lesions caused a great deal of pain, and they bled easily. The nasal mucosa, as well as the buccal cavity and most of the pharynx, showed bullae and desquamation. The lungs were clear, apart from a few scattered rhonchi. The remainder of the physical examination was not remarkable.

From the New York Hospital and the Department of Medicine (Dermatology), Cornell University Medical College.

1. Topping, M. C., and Knoefel, A. F.: Use of Vitamin G in Pemphigus: Report of a Case of Pemphigus Vulgaris Treated Successfully with Riboflavin, *J. A. M. A.* **114**: 2102 (May 25) 1940.

2. Topping, M. C.: Personal communication to the authors.

3. Grace, A. W., and Suskind, F. H.: Etiology of Pemphigus Vulgaris: Isolation of a Transmissible Agent in a Fourth Case, *J. Invest. Dermat.* **2**: 1 (Feb.) 1939.

4. Foster, P. D., and Abshier, A. B.: Smallpox Vaccine in the Treatment of Herpes Simplex, *Arch. Dermat. & Syph.* **36**: 294 (Aug.) 1937.

5. Rivers, T. M., and Ward, S. M.: Jennerian Prophylaxis by Means of Intradermal Injections of Culture Vaccine Virus, *J. Exper. Med.* **62**: 549 (Oct.) 1935.

Laboratory Data.—The urine showed occasional traces of albumin but no other pathologic conditions. The hemoglobin content of the blood was 13 Gm.; the red blood cells numbered 5.2 million and the white blood cells 8,300 with 25 adult polymorphonuclear cells, 45 immature cells, 18 lymphocytes, 3 monocytes and 9 eosinophils. During the patient's stay in the hospital the proportion of red blood cells and hemoglobin fell slightly while the white blood cell count rose, showing an increase in the proportion of immature polymorphonuclear cells. A count six days before death revealed the hemoglobin content to be 10.5 Gm., the red blood cells 4.6 million and the white blood cells 19,700; the differential count showed 30 adult polymorphonuclear cells, 52 immature cells, 12 lymphocytes, 2 monocytes, 3 eosinophils and 1 basophil. The blood Kline reaction was negative; the blood urea nitrogen level was 11 mg. per hundred cubic centimeters and the fasting level of blood sugar was 103 mg. per hundred cubic centimeters on admission.

Course.—The course in the hospital was progressively downhill. New crops of bullae continued to appear. Apart from the administration of riboflavin and smallpox vaccine, as mentioned previously, the patient was given a tub bath every day in tepid water containing 1 Gm. of potassium permanganate. His entire body was sprayed twice a day with a 1 per cent aqueous solution of gentian violet and his mouth cleaned with staogen oil.^{6a} Bronchopneumonia developed and sulfapyridine (0.1 Gm. every four hours) was without apparent effect. On the thirtieth day after admission his temperature went above 38 C. (100.4 F.) and remained elevated, rising as high as 41 C. (105.8 F.) on the day of his death one week later.

Autopsy.—An autopsy was performed, and a minute study was made of the organs, including the brain and spinal cord. The anatomic diagnoses were pemphigus with excoriation of a large proportion of the cutaneous surface, an acute splenic tumor with focal areas of necrosis, fatty degeneration of the liver and of the heart, bronchopneumonia with consolidation throughout the lower lobes of the left lung, acute bronchitis and hydrothorax.

Other abnormalities noted were slight arteriosclerosis of the aorta and the right coronary and pulmonary arteries, slight calcification of the renal tubules, cholelithiasis, a calcified nodule in the lower lobe of the right lung, thrombosis of the inferior hemorrhoidal veins in the lower portion of the rectum and of the pancreatic veins, focal necrosis of the pancreas with lymphocytic infiltration, a cyst of the pars anterior of the hypophysis and edentia.

It is interesting that pathologic changes in the central nervous system described by other observers⁶ were not present in our patient. Lesions have been found in the spinal cord, especially about the dorsal root, which have led several observers to regard pemphigus as primarily a disease of the central nervous system showing, like herpes zoster, cutaneous bullae as the most obvious external sign. Dr. Louis D. Stevenson examined carefully the brain and spinal cord of this patient, and he was able to find no significant lesions in either.

Furthermore, lesions in the adrenal glands,⁷ described as having a probable etiologic connection with pemphigus vulgaris, were not seen in this case.⁸

COMMENT

This case is reported because it illustrates the failure of a therapeutic measure in pemphigus which has been recommended as efficacious. In addition, a new method of therapy was undertaken, namely vaccination, which was based on the assumption that pemphigus is a virus-borne disease. This measure

5a. A proprietary preparation said to be "an ozonide of olive oil in olive oil."

6. Poirrier, L.: Pathogénie nerveuse des pemphigus chroniques, Thesis, Paris, no. 169, 1904. Covey, G. W.: Pemphigus Vulgaris, with Findings in the Spinal Cord Suggesting the Etiology of the Skin Lesions, *Arch. Dermat. & Syph.* **9**: 305 (March) 1924.

7. Talbot, J. H., and Coombs, F. S.: Pemphigus: Experimental Studies on Thirty-Four Patients, *Arch. Dermat. & Syph.* **41**: 359 (Feb.) 1940.

8. Since this paper was submitted for publication, a patient with acute pemphigus has been treated in this hospital with riboflavin without salutary effect from the drug. She was a 58 year old Irish woman, sick for only six weeks before admission. The rash had been present only two days. On admission her skin and mucous membranes were covered with characteristic bullae. She died in four days despite the administration of 50 mg. of riboflavin twice a day for three days. The diagnosis was confirmed by postmortem examination. The case will be reported in detail later.

also met with failure. Pathologic studies in this case failed to reveal the presence of lesions in the central nervous system or in the adrenal glands, sites considered by other investigators to have special significance in pemphigus.

SUMMARY

In the case of pemphigus here reported treatment with riboflavin and smallpox vaccine was tried. The patient died while under treatment. An autopsy failed to reveal lesions in the spinal cord or in the adrenal glands, sites described as characteristic by other investigators.

525 East Sixty-Eighth Street—121 East Sixtieth Street.

Council on Physical Therapy

THE COUNCIL ON PHYSICAL THERAPY HAS AUTHORIZED PUBLICATION OF THE FOLLOWING REPORTS.

HOWARD A. CARTER, Secretary.

RADIO-EAR TYPE C, SPECIAL ELECTRONIC HEARING AID ACCEPTABLE

Manufacturer: E. A. Myers and Sons, Inc., 306-308 Beverly Road, Mount Lebanon, Pittsburgh.

The Radio-Ear Type C, Special Electronic Hearing Aid consists of the following parts:

(a) Combined microphone and amplifier unit M-5375 with volume control switch and battery "economizer," the latter intended to reduce the current drain on new batteries giving full voltage. The microphone amplifier unit is $3\frac{3}{4}$ by $1\frac{3}{4}$ by $\frac{5}{8}$ inches, weighing 85 Gm. A special four prong connector which plugs into the microphone increases the over-all length by $\frac{3}{4}$ inch.

(b) A and B batteries in leatherette zipper case. This case is $4\frac{3}{4}$ by $3\frac{1}{4}$ by $1\frac{1}{4}$ inches and with batteries, weighs 358 Gm. The A battery is Radio-Ear 728, 1.5 volts. The B battery is Radio-Ear 729, 34.5 volts. Connections are made by means of a special three prong plug connector.

(c) Two crystal receivers, C-5172, $\frac{5}{16}$ by 1 inch (diameter) and C-5095, $\frac{5}{8}$ by $\frac{3}{4}$ inch diameter, each with molded earpiece. Bone conduction receiver.

TABLE 1.—Current Drains at Full Voltage

Battery	Economizer Position	Voltage	Current
A.....	Battery used	1.5	100.00 ma.
B.....	Battery used	34.5	0.65 ma.
A.....	Battery new	1.5	85.00 ma.
B.....	Battery new	34.5	0.50 ma.

TABLE 2.—Over-All Amplifications

	128	256	512	1,024	2,048	4,096
At normal ear threshold, $\frac{1}{2}$ full volume.....	nil	nil	20	45	38	19
At approximately 45 decibels above normal threshold.....	?	24	35	49	40	8

The Council's investigation of the unit revealed that:

Battery Drain.—With new batteries giving full voltage, the current drains are as shown in table 1.

Mechanical and Electrical Features.—The instrument is neat in appearance and substantially made. The high degree of amplification makes it extremely sensitive to mechanical shocks, so that the rubbing of the clothing either on the microphone or on the connecting cords results in noise.

Performance tests were made with the "economizer" set in the used battery position.

Amplification.—The over-all amplifications with the M-5375 and C-5172 combination were as shown in table 2.

Radio-Ear Type C, Special Electronic Hearing Aid.

The Council voted to accept the Radio-Ear Type C, Special with C-5172 crystal and bone receiver for inclusion on its list of accepted devices.

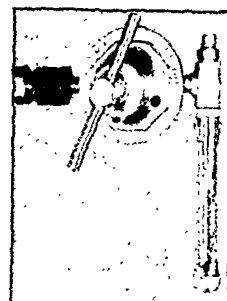
AIRCO OXYGEN THERAPY LINE REGULATOR, NO. 806 8681, ACCEPTABLE

Manufacturer: Air Reduction Sales Company, 181 Pacific Avenue, Jersey City, N. J.

The Airco Oxygen Therapy Line Regulator, Number 806 8681, is an oxygen therapy line or "station" pressure regulator for use where a manifold is employed to supply oxygen through a pipe line to several station outlets. The outlet fitting accommodates the standard oxygen therapy flowmeters used on the Council accepted Airco Oxygen Therapy Regulator, Style 8481. Pressure from the oxygen supply is reduced through only a single stage before entering the pipe line.

In the Council's investigation of the regulator, the valve was found to be accurate within reasonable limits when a delivered flow of oxygen (liters per minute) was checked against a large known volume displacement. It must be emphasized that the regulator is a single stage reducing unit, and it would be extremely dangerous to attach it to commercial oxygen tanks of 2,100 pounds pressure or to any line with pressure in excess of 50 pounds per square inch. A metal caution plate warning against the use of the regulator on inlet pressures greater than 50 pounds per square inch is fixed to the regulator.

The Council on Physical Therapy voted to accept the Airco Oxygen Therapy Line Regulator, Number 806 8681, for use on low pressure pipe lines.



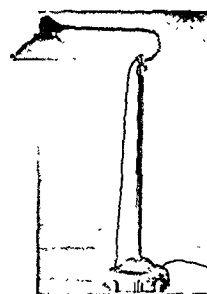
Airco Oxygen Therapy Line Regulator, Number 806 8681.

BURDICK SUNLAMP, MODEL QS-4, ACCEPTABLE

Manufacturer: The Burdick Corporation, Milton, Wis.

The Burdick Sunlamp, Model QS-4, generates ultraviolet radiation of an intensity and spectral distribution which renders it suitable for unsupervised use by the layman. The ultraviolet source, an S-4 type bulb manufactured by the General Electric Company, is mounted in an adjustable stand. The reflector is said by the firm to be finished in such a manner as will provide an even and shadowless radiation over the exposed area. The unit operates on the usual house current—alternating current, 115 volt, 60 cycle, 125 watt current consumption. Twenty-five and forty cycle lamps are available. The unit has a 16 inch horizontal arm for extension over a bed or couch, and it is adjustable to a height of from 40 to 66 inches from the floor.

The S-4 type bulb consists basically of a quartz mercury arc about $1\frac{1}{2}$ inches long, enclosed in a special glass bulb which



Burdick Sunlamp, Model QS-4.

Relative Spectral Intensities (Galvanometer Deflections)

Wavelength (Angstroms)	Relative Energy (Average of 3 Lamps)
3,132	7.96
3,024	2.59
2,967	1.15
2,894	0.28
2,804	0.09
Total	12.07

transmits ultraviolet wavelengths of 2,894, 2,967, 3,024 and 3,132 angstroms (and longer wavelengths) but which cuts off most of the wavelengths shorter than about 2,800 angstroms. The lamp

produces the characteristic blue green light of the mercury line spectrum.

The firm states that on the average untanned skin surface, a visible "pink" glow or erythema is produced in less than five minutes at a 30 inch distance.

The Council investigated the radiation characteristics of the S-4 bulb; in this investigation the lamp was placed close in front of the quartz-fluorite achromatic spectroradiometer, and the spectral intensities were measured with a vacuum thermopile. The relative spectral intensities (galvanometer deflections) corrected for absorption in the spectroradiometer are given in the accompanying table.

The radiation at 2,804 angstroms (and shorter if measurable) is about 0.75 per cent of the total of all wavelengths, including 3,132 and shorter. Mounted in an aluminum reflector the radiation at 2,894 and shorter, relative to the total, would be still lower; hence these lamps comply with the Council's requirements for acceptability of a sunlamp for spectral quality of ultra-violet radiation.

The Council voted to accept the Burdick Sunlamp, Model QS-4, for inclusion on its list of accepted devices.

FISCHER INFRA-RED GENERATORS MODELS 2281, 4040 ACCEPTABLE

Manufacturer: H. G. Fischer & Company, 2323-2345 Wabasha Avenue, Chicago.

The Fischer Infra-Red Generators are designed to produce infra-red radiation. The lamps may be used with either a 200 or a 400 watt infra-red element. The firm states that the flexibility of the stand (the two models have similar stands except for the reflectors) permits flexibility application of infra-red radiation. The base and upright of the stand measures 48 inches; the extension bar supporting the reflector is 28 inches long.



Fischer Infra-Red
Generator,
Model 4040.

The adjustment clamp is set by turning the adjustment wing nut. The stands are mounted on casters and are provided with handles for lifting.

Model 2281 is provided with what the firm calls the "regular" reflector, and the 4040 lamp has a "special faceted" reflector. A bakelite covering which

does not become heated is supplied on request. The reflectors are each 11 inches in diameter.

The firm states that the infra-red heating element is made of materials that will not blister or flake. The predominant output of the heating element is in the wavelengths beyond the visible range of the spectrum.

In the Council's clinical investigation of the lamps, they gave satisfactory service.

The Council voted to accept the Fischer Infra-Red Generators, Models 2281 and 4040, for inclusion on its list of accepted devices.

HEIDBRINK OROPHARYNGEAL CATHETER OUTFIT ACCEPTABLE

Manufacturer: The Ohio Chemical and Manufacturing Company, Heidbrink Division, Minneapolis.

The Heidbrink Oropharyngeal Catheter Outfit is designed for the oropharyngeal administration of oxygen. The apparatus is portable and consists of an automatic pressure reducing regulator with adapter for medical oxygen tanks, a flow meter, a humidifying jar, a drip jar and a nasal catheter. The unit is readily taken apart and reassembled; removal of a single nut permits the top to be taken off and thus provides access to the jars, which are of the ordinary fruit jar type.

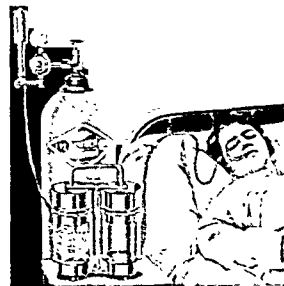
When the catheter is properly placed, the automatic pressure regulating valve is opened and the oxygen flows through the apparatus at any desired rate up to 11 liters per minute of oxygen or 14 liters of helium-oxygen mixture, as registered by

the dry float type flow meter. In operation, the oxygen is released by the automatic regulator and conducted first to the flow meter for registration of flow rate; next it is bubbled through the water in the humidifying jar. The moisture laden oxygen is then passed through the drip jar, which collects any drops of moisture, and is finally delivered through the nasal catheter to the patient.

The unit was investigated clinically by the Council. This investigation revealed that the meter is accurate within plus 3.5 per cent in the case of oxygen and within plus 7 per cent for the mixture of helium 80 per cent with oxygen 20 per cent. At no time did the apparatus deliver less of either gas or mixture than the meter indicated. The float in this meter showed a tendency to bob up and down at settings indicating 4 to 6 liters per minute of the helium-oxygen mixture.

The claim that relative humidity of more than 50 per cent results from oxygen flows of 5 liters per minute was substantiated by tests in an 8 liter chamber, when the apparatus was used as described in the advertising literature.

The Council voted to accept the Heidbrink Oropharyngeal Catheter Outfit for inclusion on its list of accepted devices.



Heidbrink Oropharyngeal
Catheter Outfit.

Council on Pharmacy and Chemistry

REPORTS OF THE COUNCIL

THE COUNCIL HAS AUTHORIZED PUBLICATION OF THE FOLLOWING
REPORTS. OFFICE OF THE COUNCIL.

PHENYTOIN SODIUM THE NONPROPRIETARY NAME FOR SODIUM DIPHENYL HYDANTOINATE

The Council has adopted the designation "Phenytoin Sodium" (accented "phén-y-tōin sodium") as a nonproprietary name for sodium diphenyl hydantoinate. Acceptance is continued of Dilantin Sodium, the proprietary name under which Parke, Davis & Co. markets its brand of sodium diphenyl hydantoinate as a brand of phenytoin sodium-N. N. R.

SULFADIAZINE AND SULFAGUANIDINE, NON- PROPRIETARY NAMES FOR 2-SULFANIL- AMIDOPYRIMIDINE AND SULFANILYL- GUANIDINE RESPECTIVELY

In view of the recent work that has been done with the sulfonamide derivatives 2-sulfanilamidopyrimidine and sulfanilylguanidine, the Council considered the recognition of nonproprietary names for these substances. For 2-sulfanilamidopyrimidine it adopted the term sulfadiazine and for sulfanilylguanidine the term sulfaguanidine. The latter term was adopted after consultation with Dr. E. K. Marshall Jr., who has done a considerable amount of work with this substance. Dr. Marshall kindly expressed his assent to the Council's recognition of the term.

SUPER D COD LIVER OIL AND SUPER D COD LIVER OIL CONCENTRATE (THE UPJOHN COMPANY) NOT ACCEPT- ABLE FOR N. N. R.

These preparations of the Upjohn Company have not been presented formally for the Council's consideration. In 1933 the Council declared Upjohn's Super D Cod Liver Oil unacceptable for inclusion in New and Nonofficial Remedies because of semi-secret composition, indefinitely designated vitamin potency and

its objectionable name (THE JOURNAL, May 20, 1933, p. 1597). The firm had thus been informed that the term "Super D" is objectionable. It is pointed out that some accepted preparations are as potent if not more potent. Furthermore, recognition of such a term would lead only to the proposal of "Super Super" potencies.

It was brought to the attention of the Council's office by physicians that detail men of the Upjohn Company were making the claim that the Upjohn's Super D Cod Liver Oil and Super D Cod Liver Oil Concentrate were more effective than products utilizing other fish liver oils. The firm was asked for evidence to substantiate such a claim and replied by the citation of evidence which was inconclusive, at the same time asking that the Council offer evidence to support its opinion that all fish liver oils in equivalent dosages are equally effective. It was pointed out to the firm that the burden of proof rests on any one making a claim for such a difference. In this connection the Council's referee authorized transmission to the firm of the following statement:

The opinion that there is no important difference in the antirachitic activity of different fish oils was based in part on the following considerations: There appears to be no satisfactory evidence for the existence of important proportions of more than two forms of vitamin D in fish liver oil. These two forms of vitamin D are identical with the products formed by the activation of ergosterol and of 7-dehydrocholesterol. These two forms of vitamin D are referred to as vitamin D₂ and vitamin D₃ in German literature. Vitamin D₃ appears to account for the entire antirachitic activity of some fish liver oils and predominates in all the oils which have been examined. The relative efficacy of vitamin D₂ and vitamin D₃ in the prevention of rickets has been the subject of extensive clinical study, and there is convincing evidence that there is no important difference in their value for this purpose. Recognition must be given to the difficulties in interpreting clinical data, and conclusions cannot be drawn from a limited number of observations on infants.

The Upjohn Company agreed to delete from its advertising any claim which might be objectionable to the Council but could not agree to control the claims made by its detail men. Furthermore, the firm made no agreement to discontinue the use of the phrase "Super D."

In view of the foregoing, the Council reaffirmed its rejection of Super D Cod Liver Oil (Upjohn) and declared Super D Cod Liver Oil (Upjohn) and Super D Cod Liver Oil Concentrate (Upjohn) unacceptable for inclusion in New and Non-official Remedies.

NEW AND NONOFFICIAL REMEDIES

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED AS CONFORMING TO THE RULES OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR ADMISSION TO NEW AND NONOFFICIAL REMEDIES. A COPY OF THE RULES ON WHICH THE COUNCIL BASES ITS ACTION WILL BE SENT ON APPLICATION.

OFFICE OF THE COUNCIL.

AMYLCAINE HYDROCHLORIDE.—Mono-*n*-amylaminoethyl-*p*-aminobenzoate hydrochloride. — $\text{NH}_2\text{C}_6\text{H}_4\text{COO}\cdot\text{CH}_2\text{CH}_2\text{NH}\cdot\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_2\text{HCL}$.

Actions and Uses.—The actions of amylcaine hydrochloride resemble those of cocaine hydrochloride, but it does not cause mydriasis when the solution is dropped into the eye. In the present state of our knowledge its use should be restricted to the production of corneal anesthesia in those cases in which mydriasis is not desired. The toxicity varies rather widely with the species and with the mode of administration. The anesthesia is induced promptly with little smarting; it does not increase intraocular tension.

Dosage.—A 2 per cent solution is used in ophthalmology when mydriasis is not desired, 1 or 2 drops being usually sufficient.

Manufactured by Novocel Chemical Manufacturing Co., Inc., Brooklyn, N. Y. U. S. patent and U. S. trademark pending.

Amylcaine Hydrochloride 2%.

Amylcaine hydrochloride occurs as a fine, white, odorless powder which, when applied to the tongue, possesses a bitter taste followed by a sense of numbness. It is soluble in water, sparingly soluble in ethanol and insoluble in ether, benzene and chloroform. An aqueous solution is acid to litmus. The free base separates as a solid from amylcaine hydrochloride solutions on the addition of sodium hydroxide or carbonate solutions but not with sodium bicarbonate solution. Amylcaine hydrochloride melts at 173-174 C., and the free base at 65 C.

Dissolve 0.1 Gm. of amylcaine hydrochloride in 50 cc. of water; to one 5 cc. portion add 1 cc. of silver nitrate solution: a white precipitate results, soluble in excess of ammonia water; to another 5 cc. portion add 0.5 cc. of diluted hydrochloric acid, 0.5 cc. of a 10 per cent solution of sodium nitrite and then 10 cc. of ammonia water containing 0.2 Gm. of betanaphthol: an orange precipitate results, soluble in ether; to a 2 cc. portion add 1 cc. of potassium mercuric iodide solution: a white

precipitate results; to a 2 cc. portion add 2 cc. of picric acid solution: a yellow precipitate results. Dissolve 0.1 Gm. of amylcaine hydrochloride in 5 cc. of water, add 2 drops of sulfuric acid and 1 cc. of a saturated solution of sodium nitrite, and heat to 50 C.: a yellow oil separates (distinction from procaine, butyn, cocaine, tutocaine and poncaine). Dissolve 0.1 Gm. of amylcaine hydrochloride in 1 cc. of sulfuric acid: the solution is colorless (readily carbonizable substances). Saturate a solution of 0.1 Gm. in 10 cc. of water with hydrogen sulfide: no coloration or precipitation occurs (salts of heavy metals).

Transfer about 0.5 Gm. of amylcaine hydrochloride, accurately weighed, to a tared platinum dish and dry at 100 C. for six hours: the loss in weight does not exceed 3 per cent. Incinerate about 0.5 Gm. of amylcaine hydrochloride, accurately weighed: the ash does not exceed 0.1 per cent. Transfer a sample of amylcaine hydrochloride, previously dried and accurately weighed, to a Kjeldahl flask and digest with sulfuric acid in the presence of 0.1 Gm. of selenium; dilute, make alkaline with sodium hydroxide solution, distil into standard acid and titrate the excess acid with standard alkali: the nitrogen content is not greater than 9.8 nor less than 9.4 per cent. Transfer about 0.5 Gm. of amylcaine hydrochloride, previously dried and accurately weighed, to a 250 cc. beaker and dissolve in 100 cc. of water. Heat to boiling and add 10 cc. of nitric acid and 20 cc. of silver nitrate solution, digest on the steam bath for three hours, filter, wash, dry and weigh the precipitate: the chloride content is not greater than 12.5 nor less than 12.0 per cent.

PERNOSTON SODIUM.—Sodium *sec*-(butyl- β -bromallyl)-barbiturate. — Sodium-5-(butyl-2)-5- β -bromopropenylmalonylurea. — $[\text{CH}(\text{CH}_2\text{CH}_2\text{CH}_2\text{Br})\text{C}(\text{CH}_2\text{CONNa}\cdot\text{CO}\cdot\text{NHCO})_2]$. The sodium salt of pernoston.

Actions and Uses.—The action of pernoston sodium is like that of pernoston except that the effects are induced almost immediately after its intravenous injection. It is used only when the oral administration of a barbiturate is not feasible either because of interference with swallowing or because prompt action is imperative, as in the presence of convulsions. The effects are delayed for from thirty to forty-five minutes after the intramuscular injection. The intravenous use demands the rigid observance of the proper technic. The contraindications are important.

Dosage.—One cc. of the 10 per cent solution (in ampules) per 12.5 Kg. (27½ pounds) of body weight injected intravenously at the rate of 1 cc. total per minute until the patient sleeps or until the full dose has been injected. The intramuscular dose is the same as that by vein, but it may be injected at once. Ampules containing a deposit should not be used.

Distributed by Riedel de Haen, Inc., New York. U. S. patent 1,739,662 (Dec. 17, 1929, expires 1946); U. S. trademark 266,216.

Ampules Pernoston 10%, 2 cc.

Pernoston sodium occurs as a fine, white, crystalline powder, possessing a bitter taste; soluble in water and alcohol; slightly soluble in ether and chloroform. A 10 per cent aqueous solution is alkaline to litmus and phenolphthalein and has a pH of approximately 9.5.

Transfer 5 cc. of a 10 per cent solution of pernoston sodium to a test tube, add 2 cc. of diluted hydrochloric acid; allow the precipitate to crystallize, filter, wash and recrystallize from an ethanol-water mixture: the melting point of the pernoston is from 130 to 133 C.

Transfer 5 cc. portions of a 10 per cent solution of pernoston sodium to two test tubes and to one add 1 cc. of mercury bichloride solution: a white precipitate results, soluble in 10 cc. of ammonium hydroxide; to the other portion add 5 cc. of silver nitrate solution: a white precipitate results, soluble in 5 cc. of ammonium hydroxide.

Dissolve 0.1 Gm. of pernoston sodium in 1 cc. of sulfuric acid: the liquid assumes a yellow color, changing to brownish red and finally to dark red. Acidify 40 cc. of a 10 per cent solution of pernoston sodium with diluted nitric acid and filter; separate portions of 10 cc. each of the filtrate yield no opalescence with 1 cc. of silver nitrate solution (chloride); no turbidity with 1 cc. of barium nitrate solution (sulfate); no coloration or precipitation on saturation with hydrogen sulfide (salts of heavy metals).

Transfer about 0.5 Gm. of pernoston sodium, previously dried and accurately weighed, to a tared porcelain dish and add 2 cc. of sulfuric acid; evaporate the excess acid, ash the residue and ignite at 900 C.: the weight of sodium sulfate is not less than 21.4 per cent nor more than 22.2 per cent. Transfer about 0.3 Gm. of pernoston sodium, dried and accurately weighed, to a bomb tube, and determine the bromine content by means of the Carius method: the bromine found is not less than 24.3 per cent nor more than 24.8 per cent. Transfer a sample of pernoston sodium, dried and accurately weighed, to a Kjeldahl flask and digest with sulfuric acid in the presence of selenium, dilute, make alkaline, distil into standard acid and titrate the excess acid with standard alkali: the nitrogen content is not less than 8.3 per cent nor more than 8.8 per cent.

PHENOBARBITAL SODIUM (See New and Nonofficial Remedies, 1940, p. 135).

The following dosage form has been accepted:

Ampules Phenobarbital Sodium (Powder) Lakeside, 0.13 Gm. (2 Grains).

Prepared by The Lakeside Laboratories, Inc., Milwaukee, Wis. No U. S. patent or trademark.

Antipneumococcic Serum, Type I (See New and Nonofficial Remedies, 1940, p. 429).

E. R. Squibb & Sons, New York.

Antipneumococcic Serum, Type I (Refined and Concentrated) (See New and Nonofficial Remedies, 1940, p. 431). Also marketed in syringes containing 50,000 units of the type I pneumococcus.

MEDICAL LICENSURE STATISTICS FOR 1940

THIRTY-NINTH ANNUAL PRESENTATION OF LICENSURE STATISTICS BY THE COUNCIL
ON MEDICAL EDUCATION AND HOSPITALS OF THE AMERICAN
MEDICAL ASSOCIATION

Table of Contents

PAGE	PAGE	PAGE
STATE MEDICAL EXAMINING BOARDS	Licentiates Representing Additions to the Medical Profession.....	Graduates of Schools of Osteopathy Registered, 1935-1940
Comment .....2021	2039	2049
Licenses Issued .....2024	State Requirements of Preliminary Training	Physicians Examined on the Basis of Certificates Obtained in Countries Other than the United States and Canada
Candidates Examined, 1940.....2025	2041	2049
Graduates of 1938, 1939 and 1940 Ex- amined, 1940 .....2032	Required Hospital Internships.....2041	
Consolidated Examinations .....2036	Candidates Examined, 1936-1940.....2043	
Failures by Licentiates, 1940.....2037	Registration, 1904-1940 .....2045	
Age at Licensure.....2038	Graduates of Approved Schools and Others Registered, 1922-1940.....2048	BASIC SCIENCE BOARDS.....2051
Registration by Reciprocity and En- dorsement .....2038	Graduates of Unapproved Medical Schools Registered, 1935-1940.....2048	NATIONAL BOARD OF MEDICAL EXAM- INERS .....2053

Statistical compilations regarding licensure, medical and allied, are presented annually in the State Board Number of THE JOURNAL. In the following pages will be found the report for the year 1940, which constitutes the thirty-ninth annual presentation. Data are included as usual regarding (a) medical examining and licensing boards of the United States, the District of Columbia, the territories and the possessions of the United States, (b) boards of examiners in the basic sciences and (c) the National Board of Medical Examiners.

Official records which form the basis of these computations have been contributed throughout the year by the medical licensing boards of all states, the District of Columbia, Alaska, Hawaii, Puerto Rico and the Virgin Islands; the homeopathic medical licensing boards of Connecticut, Delaware and Maryland; the sixteen boards of examiners in the basic sciences in operation last year (Arizona, Arkansas, Colorado, Connecticut, District of Columbia, Florida, Iowa, Michigan, Minnesota, Nebraska, Oklahoma, Oregon, Rhode Island, South Dakota, Washington and Wisconsin) and the National Board of Medical Examiners. The homeopathic and eclectic examining boards of Arkansas and the homeopathic examining board in Louisiana did not license any one during the year. Likewise no physicians were registered for civilian practice in the Canal Zone.

The cooperation of the officers of the foregoing boards in making possible the vast amount of reliable information presented in the following pages is gratefully acknowledged. The Council and THE JOURNAL express thanks and appreciation to those who have supplied these data, for without such help the presentation of the calculations presented would not have been possible.

THE JOURNAL publishes each week the dates of future examinations, in the column "Medical Examination and Licensure," of state licensing and basic science boards, special examining boards and the National Board of Medical Examiners. Soon after they are held, blanks for recording such tests are regularly mailed. Such reports remain permanently in the archives of the

TABLE 1.—Licenses Issued, 1940

	On the Basis of		Total
	Examination	Reciprocity and Endorsement	
Alabama.....	10	52	62
Arizona.....	21	15	36
Arkansas.....	58	26	84
California.....	306	212	608
Colorado.....	75	17	92
Connecticut.....	58	67	125
Delaware.....	15	1	16
District of Columbia.....	49	55	104
Florida.....	131	..	131
Georgia.....	88	35	123
Idaho.....	40	..	40
Illinois.....	542	148	690
Indiana.....	119	72	191
Iowa.....	98	82	180
Kansas.....	92	19	111
Kentucky.....	82	49	131
Louisiana.....	159	26	185
Maine.....	32	15	47
Maryland.....	175	48	223
Massachusetts.....	338	113	451
Michigan.....	203	137	340
Minnesota.....	106	29	135
Mississippi.....	42	23	65
Missouri.....	179	79	258
Montana.....	9	27	36
Nebraska.....	84	15	99
Nevada.....	3	11	14
New Hampshire.....	12	38	50
New Jersey.....	179	161	340
New Mexico.....	..	46	46
New York.....	956	334	1,290
North Carolina.....	65	80	145
North Dakota.....	24	11	35
Ohio.....	308	136	444
Oklahoma.....	45	26	71
Oregon.....	33	23	56
Pennsylvania.....	477	84	561
Rhode Island.....	19	5	24
South Carolina.....	41	17	58
South Dakota.....	7	8	15
Tennessee.....	197	41	238
Texas.....	209	146	355
Utah.....	6	17	23
Vermont.....	20	22	42
Virginia.....	142	80	222
Washington.....	48	47	95
West Virginia.....	35	50	85
Wisconsin.....	113	46	159
Wyoming.....	16	6	22
Alaska, Hawaii, Puerto Rico and the Virgin Islands.....	28	18	46
Totals.....	6,277	2,833	9,115

Association. Reports of all examinations and those licensed by endorsement of credentials are carefully checked with the biographic file of physicians and the
(CONTINUED ON PAGE 2024)

[illegible]

TABLE 2.—CANDIDATES EXAMINED BY MEDICAL

Marginal Number

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	
	Alabama	Arizona	Arkansas	California	Colorado	Connecticut	Delaware	Dist. Columbia	Florida	Georgia	Idaho	Illinois	Indiana	Iowa	Kansas	Kentucky	Louisiana	Maine	Maryland	Massachusetts	Michigan	Minnesota	Marginal Number
	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	
61 Baylor University College of Medicine.....				2	0						1	0								1	0		61
62 University of Texas Faculty of Medicine.....		1	0	1	0									1	0					1	0	1	62
63 University of Vermont College of Medicine.....						2	0													1	1		63
64 Medical College of Virginia.....				1	0				1	0										0	1		64
65 University of Virginia Department of Medicine				1	0			1	0	1										1	0		65
66 Marquette University School of Medicine.....				5	0	1	2		1	0		5	0						1	0		5	66
67 University of Wisconsin Medical School.....				4	0	1	0					4	0		1	0				1	0	5	67
68 Dalhousie University Faculty of Medicine.....																							68
69 Laval University Faculty of Medicine.....						0	1																69
70 McGill University Faculty of Medicine.....				10	3											1	0	1	0	0	1		70
71 Queen's University Faculty of Medicine.....				1	0		1	0		1	0							1	0				71
72 University of Alberta Faculty of Medicine.....																		1	0	1	0		72
73 University of Manitoba Faculty of Medicine...												1	0										73
74 University of Montreal Faculty of Medicine...																		0	1		1	1	74
75 University of Toronto Faculty of Medicine....				5	0		1	0		1	0		1	0		1	0			1	0	1	75
76 University of Western Ontario Medical School.						1	1														1	0	76
77 Foreign Medical Faculties.....				37	10		13	23		1	0		1	1	19	22			6	5	19	16	77
78 Extinct Medical Schools.....									2	0													78
79 Unapproved Schools.....				1	1	15	4	0	3		1	0		48	2					125	178		79
80 Totals.....	26	21	58	425	79	86	15	51	137	88	41	506	118	72	92	77	155	46	193	676	247	196	80
81 Totals—Examined—Passed.....	26	20	58	396	75	53	15	49	131	88	40	542	118	67	92	77	154	32	175	338	247	196	81
82 Totals—Examined—Failed.....	0	1	0	29	4	33	0	2	6	0	1	24	0	5	0	0	1	14	18	238	0	0	82
83 Percentage Failed.....	0.0	4.8	0.0	6.8	5.1	38.4	0.0	3.9	4.4	0.0	2.4	4.2	0.0	6.9	0.0	0.0	0.6	30.4	9.3	46.9	0.0	0.0	83

P = Passed; F = Failed.

(CONTINUED FROM PAGE 2021)

proper entry is made. In the occasional instance in which the applicant, according to the record on file, has not graduated or there is some irregularity, the board is notified. These reports are then used as the basis of the statistical compilations and then permanently filed.

Since 1927 credentials of physicians coming from abroad have been verified by official correspondence. This has been impossible for several years and we are relying on the licensing boards in the various states to determine the authenticity of credentials from medical schools outside the United States and Canada. Later in this presentation statistics have been computed sepa-

TABLE 3.—Licenses Issued, 1935-1940

	Examination	Reciprocity and Endorsement	Total
1935.....	5,718	2,193	7,911
1936.....	6,273	2,771	9,044
1937.....	6,627	3,303	9,930
1938.....	6,553	2,936	9,509
1939.....	6,395	2,872	9,267
1940.....	6,277	2,858	9,135
Totals.....	37,843	16,833	54,676

ately showing the physicians examined on the basis of certificates obtained in countries other than the United States and Canada during 1940, and also for comparison the number so examined in ten previous years.

More than thirty licensing boards obtain from the Council verification of biographic data and other claims before granting a license or permission to take the licensing examination. This service is available to all boards.

The tables referring to medical licensing boards include figures regarding the number of candidates examined for medical licensure in 1940, the number

licensed and the number added to the profession. The state boards are discussed first, followed by the basic science boards and the National Board of Medical Examiners.

LICENSES ISSUED

In the first table are presented the number of licenses issued in the various states, territories and possessions, both by examination and by reciprocity or endorsement of state licenses or by the certificate of the National Board of Medical Examiners. During the year 1940 there were 9,115 licenses issued for the practice of medicine and surgery in the forty-eight states, the District of Columbia, Alaska, Hawaii, Puerto Rico and the Virgin Islands. Of the 9,115 licenses, 6,277 were issued after examination and 2,838 by reciprocity and endorsement.

Twenty-one states, the District of Columbia, Alaska, Hawaii and Puerto Rico require that applicants for licensure possess a hospital internship (table 20). However, the licensing boards permit the candidate to take the examination and if successful the license is withheld until completion of the internship. The 9,115 licenses issued include, therefore, many candidates who were examined in 1939 and even a few in previous years. Licenses are also withheld for proof of citizenship and minor technicalities. In some states also the licenses of those examined in December are dated and issued early in the following year. The figures in this table will not correspond with those hereinafter given.

New York issued the largest number of licenses, 1,290. Illinois granted 690 licenses, California 608 and Pennsylvania 561. These states are the only ones which registered more than 500. Twenty-four states, Alaska, Hawaii, Puerto Rico and the Virgin Islands issued licenses to fewer than 100. None were licensed by examination in New Mexico or the Virgin Islands. Three were registered in Alaska, 18 in Hawaii, 19 in

Marginal Number	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	Totals	Examined—Passed	Examined—Failed				
	Mississippi	Missouri	Montana	Nebraska	Nevada	New Hampshire	New Jersey	New Mexico	New York	North Carolina	North Dakota	Ohio	Oklahoma	Oregon	Pennsylvania	Rhode Island	South Carolina	South Dakota	Tennessee	Texas	Utah	Vermont	Virginia	Washington	West Virginia	Wisconsin	Wyoming	Alaska, Hawaii and Puerto Rico							
61	1	0																	73	11							1	0		90	79	11			
62															2	0			88	4									103	99	4				
63									0	1												18	0						23	21	2				
64									2	1	7	0							1	0			49	0		10	0			74	72	2			
65										1	0				1	1						61	0		2	0			71	69	2				
66							7	0		4	5		1	0		1	0							1	0		33	0		78	71	7			
67		1	0						1	0			2	0		1	0						1	0		42	0	1	0	64	64	0			
68							2	0		13	6					1	0												22	16	6				
69									0	1																			4	1	3				
70							2	0		12	7		2	0		3	0	1	0				1	0		1	0		60	49	11				
71		1	0						6	3																		15	12	3					
72									1	1																		4	3	1					
73									1	1																		6	5	1					
74									0	1							1	0										4	1	3					
75		1	0						5	2			3	0		1	0	3	0				1	0				32	30	2					
76									9	2									1	0								16	13	3					
77		3	0				27	29	0	1	535	894				32	15			19	8	2	0					3	3		2,092	1,144	5		
78																																			
79							2	1	47	5										26	5						1	0	1	0	1	1	473	273	200
80	42	179	9	84	4	10	215	1	2,049	65	24	321	47	33	502	19	41	7	189	234	9	22	143	48	38	113	17	31	7,921	.....	.....	.....
81	42	179	9	84	3	9	179	0	956	65	24	305	47	33	478	19	41	7	188	209	9	21	142	48	38	113	16	29	.....	6,282	.....	.....	
82	0	0	0	0	1	1	36	1	1,093	0	0	16	0	0	24	0	0	0	1	25	0	1	1	0	0	0	1	2	.....	.....	1,639	.....		
83	0.0	0.0	0.0	0.0	25.0	10.0	16.7	100.0	53.3	0.0	0.0	5.0	0.0	0.0	4.8	0.0	0.0	0.0	0.5	10.7	0.0	4.5	0.7	0.0	0.0	0.0	5.9	6.5	.....	.....	.....	2
	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50							

Puerto Rico and 6 in the Virgin Islands. Of these, 18 were granted certificates by endorsement of credentials, including 1 in Alaska, 9 in Hawaii, 2 in Puerto Rico and the 6 already mentioned in Virgin Islands. The states of Florida and Idaho grant licenses only on the basis of examination. Massachusetts and Rhode Island have no reciprocity privileges but endorse diplomates of the National Board of Medical Examiners.

Figures for five previous years and 1940 giving totals by years of the number of licenses issued on the basis of examination and endorsement are contained in table 3. Since 1937 fewer licenses have been issued annually. However, licenses issued do not represent individuals since several have been licensed in more than one state during a year. Nor do they represent additions to the medical profession at large since the majority of those licensed by reciprocity and endorsement, with the exception of the diplomates of the National Board of Medical Examiners, have migrated from other states. Table 15 shows how many of those licensed were never before registered and therefore represent the number added to the medical profession in the United States and territories and possessions.

Referring again to table 3, it will be noted that in six years 54,676 licenses have been issued, 37,843 by examination and 16,833 by endorsement of credentials.

CANDIDATES EXAMINED BY MEDICAL
EXAMINING BOARDS, 1940

Table 2 records data referring to those examined for medical licensure by individual states throughout the year and gives the number who passed and failed in each state and the medical school of graduation. There were 7,921 examined, of whom 6,282 passed and 1,639 failed, representing sixty-seven approved medical schools in the United States and nine of the medical schools of Canada, one hundred and two faculties of medicine and four licensing corporations of other

countries, five medical schools now extinct, eight unapproved institutions and eight osteopathic colleges. Osteopaths who are granted the privilege to practice medicine, surgery, or both, by the medical board are included in these statistics, eliminating for instance those osteopaths in California who receive these privileges as physicians and surgeons from an osteopathic board. There were 5,188 graduates of approved medical schools in the United States examined, of whom 5.1 per cent failed; 163 graduates of approved Canadian schools, 20.2 per cent of whom failed; 2,092 graduates of schools outside the United States and Canada,

TABLE 4.—Source of Candidates Examined, 1940

Medical Schools	Number	Number Examined	Number Passed	Number Failed	Percentage Failed
Approved, in United States.....	67	5,188	4,926	262	5.1
Approved, in Canada.....	9	163	130	33	20.2
Extinct.....	5	5	5	..	0.0
Foreign.....	106	2,092	948	1,144	54.7
Unapproved schools.....	16	473	273	200	41.4
Totals.....	203	7,921	6,282	1,639	20.7

principally in Europe, with 54.7 per cent failures; five who graduated from medical schools now extinct, all of whom passed, and 473 from unapproved and osteopathic schools, of whom 44.4 per cent failed. These 473 represented 174 graduates of osteopathic schools, of whom 114 passed and 60, or 34.9 per cent, failed and 299 graduates of unapproved schools, of whom 159 passed and 140, or 46.9 per cent, failed. Graduates of osteopathic schools were examined by the medical boards of eight states and the District of Columbia, namely Colorado, Connecticut, Massachusetts, New Hampshire, New Jersey, Texas, Wisconsin and Wyoming, while graduates of unapproved schools were examined in five states and Puerto Rico. These states

Marginal Number	SCHOOL	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Marginal Number
		Alabama	Arizona	Arkansas	California	Colorado	Connecticut	Delaware	Dist. Columbia	Florida	Georgia	Idaho	Illinois	Indiana	Iowa	Kansas	Kentucky	Louisiana	Maine	Maryland	Massachusetts	Michigan	Minnesota	
		P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	
1	University of Arkansas School of Medicine....			57	0	2	1															10		1
	CALIFORNIA																							
2	College of Medical				53	1	4	0		1	0	1	0			1	0							
3	Stanford University				53	1																		
4	University of Calif		1	0		56	1																	
5	University of South				32	0	1	0										1	0					
	COLORADO																							
6	University of Colorado School of Medicine....				1	0	45	0																
	CONNECTICUT																							
7	Yale University School of Medicine.....							4	0															
	DISTRICT OF COLUMBIA																							
8	George Washington University School of Med.						1	1		22	0													
9	Georgetown University School of Medicine....						1	0		5	0													
10	Howard University College of Medicine.....								1	0														
	GEORGIA																							
11	Emory University School of Medicine.....	2	0							12	0	45	0											
12	University of Georgia School of Medicine....									11	0	32	0											
	ILLINOIS																							
13	Loyola University School of Medicine.....		1	0		6	1	1	0	1	0													
14	Northwestern University Medical School.....	1	0			14	0				2	0	1	0	5	0	60	0			3	0	3	0
15	University of Chicago, Rush Medical College..	2	0	1	0		7	1		1	0				2	0						8	0	19
16	University of Chicago, The School of Medicine.					3	0	1	0						1	0	1	0	1	0	2	0		
17	University of Illinois College of Medicine....		1	0		6	0				1	0							1	0			5	0
	INDIANA																							
18	Indiana University School of Medicine.....					1	0			3	0			1	0	102	0							
	IOWA																							
19	State University of Iowa College of Medicine..			2	1																	1	0	15
	KANSAS																							
20	University of Kansas School of Medicine.....															52	0						1	0
	KENTUCKY																							
21	University of Louisville School of Medicine....				1	0					1	0												
	LOUISIANA																							
22	Louisiana State University School of Medicine.	1	0	1	0	1	0	2	0		1	0												
23	Tulane University of Louisiana Sch. of Med....	8	0			2	0	1	0			5	0	2	0									
	MARYLAND																							
24	Johns Hopkins University School of Medicine..		1	0			2	0		3	0													
25	University of Maryland School of Medicine and College of Physicians and Surgeons.....						1	0							1	0								
	MASSACHUSETTS																							
26	Boston University School of Medicine.....					1	0																	
27	Harvard Medical School	1	0	1	0		2	0	1	0	3	0												
28	Tufts College Medical School.....							1	0															
	MICHIGAN																							
29	University of Michigan Medical School.....				3	0			1	0														
30	Wayne University College of Medicine.....				2	0																		
	MINNESOTA																							
31	University of Minnesota Medical School.....		2	0		7	0																	
	MISSOURI																							
32	St. Louis University School of Medicine.....		1	1		11	2																	
33	Washington University School of Medicine....					2	0			1	0													
	NEBRASKA																							
34	Creighton University School of Medicine.....		1	0		14	0	1	0															
35	University of Nebraska College of Medicine....		1	0		5	0	1	0															
	NEW YORK																							
36	Albany Medical College.....																							
37	Columbia University Coll. of Phys. and Surgs.		1	0		5	0																	
38	Cornell University Medical College.....				1	0				1	0	2	0											
39	Long Island College of Medicine.....																							
40	New York Medical College, Flower and Fifth Avenue Hospitals	1	0																					
41	New York University College of Medicine.....		1	0			1	0																
42	Syracuse University College of Medicine.....				1	0																		
43	University of Buffalo School of Medicine.....					1	0																	
44	University of Rochester School of Medicine and Dentistry							1	0															
	NORTH CAROLINA																							
45	Duke University School of Medicine.....									2	0													
	OHIO																							
46	Ohio State University College of Medicine....										1	0												
47	University of Cincinnati College of Medicine..				0	1				2	0													
48	Western Reserve University School of Medicine											1	0											
	OKLAHOMA																							
49	University of Oklahoma School of Medicine....				5	0				1	0	1	0											
	OREGON																							
50	University of Oregon Medical School.....		1	0		10	0																	
	PENNSYLVANIA																							
51	Hosp. of Phila.				1	1				3	0	2	0											
52	Philadelphia									4	0	1	0	1	0									
53	Philadelphia		1	0						1	0	3	0											
54	Philadelphia																							
55	Philadelphia	2	0			2	0			1	0	1	0	1	0									
56	Philadelphia																							
	SOUTH CAROLINA																							
57	Medical College of the State of South Carolina	3	0								1	0												
	TENNESSEE																							
58	Meharry Medical College									4	0													
59	University of Tennessee College of Medicine..		1	0						3	0													
60	Vanderbilt University School of Medicine.....		2	0																				

P = Passed; F = Failed.

Marginal Number	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	Totals	Examined—Passed	Examined—Failed	Percentage—Failed	No. Boards Examined by
	Mississippi	Missouri	Montana	Nebraska	Nevada	New Hampshire	New Jersey	New Mexico	New York	North Carolina	North Dakota	Ohio	Oklahoma	Oregon	Pennsylvania	Rhode Island	South Carolina	South Dakota	Tennessee	Texas	Utah	Vermont	Virginia	Washington	West Virginia	Wisconsin	Wyoming	Hawaii and Puerto Rico					Marginal Number
1	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	71	69	2	2.8	7
2	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	90	89	1	1.1	22
3	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	36	35	1	1.8	3
4	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	63	61	1	1.6	2
5	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	34	34	0	0.0	5
6	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	48	48	0	0.0	4
7	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	10	10	0	0.0	7
8	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	49	45	4	8.2	11
9	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	63	51	12	19.0	12
10	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	25	25	0	0.0	10
11	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	65	61	4	6.2	7
12	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	43	43	0	0.0	12
13	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	129	122	7	5.4	22
14	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	159	158	1	0.6	25
15	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	118	115	3	2.5	31
16	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	34	33	1	2.9	11
17	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	171	169	2	1.2	15
18	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	111	110	1	0.9	8
19	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	61	60	1	1.6	7
20	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	74	74	0	0.0	5
21	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	93	92	1	1.1	14
22	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	77	75	2	2.6	10
23	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	130	129	1	0.8	16
24	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	64	64	0	0.0	11
25	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	100	98	2	2.0	8
26	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	13	12	1	7.7	6
27	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	47	46	1	2.1	20
28	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	24	24	0	0.0	10
29	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	140	136	4	2.9	12
30	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	63	62	1	1.6	4
31	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	119	118	1	0.8	14
32	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	109	91	9	9.0	14
33	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	95	93	2	2.1	12
34	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	61	58	3	4.9	15
35	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	86	85	1	1.2	12
36	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	2	2	0	0.0	2
37	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	90	76	14	15.6	13
38	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	54	41	13	24.1	11
39	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	49	44	5	10.2	4
40	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	23	23	0	0.0	9
41	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	103	86	10	18.1	11
42	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	39	36	3	7.7	5
43	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	32	23	9	28.1	4
44	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	27	25	2	7.5	11
45	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	16	16	0	0.0	8
46	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	80	80	0	0.0	4
47	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	85	84	1	1.2	9
48	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	64	64	0	0.0	6
49	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	62	62	0	0.0	10
50	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	46	46	0	0.0	12
51	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	155	131	24	15.5	17
52	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	126	121	5	4.0	16
53	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	123	115	8	6.5	17
54	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	114	110	4	3.5	24
55	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	57	51	6	10.5	5
56	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	19	17	2	10.5	5
57	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	40	40	0	0.0	4
58	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	44	44	0	0.0	3
59	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	55	55	0	0.0	10
60	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	55	55	0	0.0	3

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22			
Marginal Number	Alabama	Arizona	Arkansas	California	Colorado	Connecticut	Delaware	Dist. Columbia	Florida	Georgia	Idaho	Illinois	Indiana	Iowa	Kansas	Kentucky	Louisiana	Maine	Maryland	Massachusetts	Michigan	Minnesota	Marginal Number		
SCHOOL	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P		
TEXAS																									
61 Baylor University College of Medicine.....				2	0						1	0										1	0	61	
62 University of Texas Faculty of Medicine.....														1	0							1	0	62	
VERMONT																									
63 University of Vermont College of Medicine....						2	0													1	1			63	
VIRGINIA																									
64 Medical College of Virginia.....																								64	
65 University of Virginia Department of Medicine.								1	0											1	0			65	
WISCONSIN																									
66 Marquette University School of Medicine.....				5	0		1	2		1	0		5	0					1	0		5	0	66	
67 University of Wisconsin Medical School.....				4	0	1	0					4	0			1	0					2	0	67	
CANADA																									
68 Dalhousie University Faculty of Medicine.....																								68	
69 Laval University Faculty of Medicine.....																								69	
70 McGill University Faculty of Medicine.....				5	2													0	1					70	
71 Queen's University Faculty of Medicine.....				1	0		1	0										3	1		2	0	1	0	71
72 University of Alberta Faculty of Medicine.....																								72	
73 University of Manitoba Faculty of Medicine....												1	0					1	0	1	0			73	
74 University of Montreal Faculty of Medicine....																		0	1					74	
75 University of Toronto Faculty of Medicine....				2	0					1	0		1	0									1	0	75
76 University of Western Ontario Medical School.						1	1									1	0					1	0	76	
77 Foreign Medical Faculties				1	1		2	2				10	1		1	0			1	1	0	5	6	77	
78 Unapproved Schools				14	3	0	2					48	1									79	66	78	
79 Totals	24	17	58	353	76	45	12	34	67	86	23	424	117	61	89	74	145	25	153	241	245	156	79		
80 Totals—Examined—Passed	24	16	58	339	73	37	12	34	67	86	23	422	117	61	89	74	144	20	153	234	245	156	80		
81 Totals—Examined—Failed	0	1	0	14	3	8	0	0	0	0	0	2	0	0	0	0	1	5	2	107	0	0	81		
82 Percentage Failed	0.0	5.9	0.0	4.0	3.9	17.8	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.7	20.0	1.3	44.4	0.0	0.0	82		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22			

P = Passed; F = Failed.

included California, Illinois, Massachusetts, Pennsylvania and Texas. Of the 174 osteopaths, 70 were examined in Massachusetts, 52 in New Jersey, 24 in Texas and 19 in Colorado. Other states examined fewer than 7. Of the graduates of other than recog-

TABLE 6.—Graduates of Canadian Medical Schools Examined for Licensure in the United States, 1940

	Examined	Passed	Failed
California.....	19	16	3
Connecticut.....	5	3	2
District of Columbia.....	2	2	0
Georgia.....	1	1	0
Illinois.....	2	2	0
Kansas.....	1	1	0
Kentucky.....	1	1	0
Louisiana.....	1	1	0
Maine.....	10	7	3
Maryland.....	1	1	0
Massachusetts.....	8	7	1
Michigan.....	3	3	0
Minnesota.....	7	7	0
Missouri.....	2	2	0
New Hampshire	2	2	0
New Jersey.....	2	2	0
New York.....	71	47	24
Ohio.....	5	5	0
Pennsylvania.....	5	5	0
Rhode Island.....	4	4	0
South Dakota.....	1	1	0
Tennessee.....	3	3	0
Texas.....	1	1	0
Virginia.....	2	2	0
Washington.....	1	1	0
West Virginia.....	1	1	0
Hawaii.....	1	1	0
Puerto Rico.....	1	1	0
Totals.....	163	130	33

nized schools, Massachusetts examined 233 and Illinois 50. All other states examined fewer than 7. Osteopaths in Colorado, Massachusetts, New Hampshire, New Jersey and Texas were examined in medicine and surgery, those in the District of Columbia, Wisconsin

and Wyoming only in surgery, while Connecticut examined 2 in medicine and surgery and 1 in medicine only.

The 7,921 do not represent individuals, since a candidate might take the examination in more than one state and would be counted in each state. This applies to those who pass or fail, or those who fail and later pass in one or more states, or pass in one state and later in the same year fail elsewhere. However, if a candidate fails more than once in a given state within the year he is counted in that state only once as a failure.

Three of the five homeopathic boards in existence, Connecticut, Delaware and Maryland, examined 17 candidates, all of whom passed. The homeopathic boards in Arkansas and Louisiana did not examine any one during the year. The one eclectic board in existence, in Arkansas, did not examine a candidate.

The greatest number of graduates of any one school examined was 187. These were the graduates of the University of Illinois College of Medicine, who were examined in twenty states. Of those examined only 3, 1.6 per cent, failed. The next greatest number, 179, were from Northwestern University Medical School. Here again only 2, or 1.1 per cent, failed. Northwestern graduates took the test in twenty-five states. In another instance 157 graduates of the Hahnemann Medical College and Hospital of Philadelphia were examined in seventeen states. Twenty-five graduates of this school failed to pass the licensure examination, representing 15.9 per cent of those examined.

Fourteen schools in the United States had no failures before medical licensing boards, thirty-two less than 5 per cent, eight between 5 and 10 per cent and thirteen more than 10 per cent. The number examined from many of the schools having a high percentage of failures is small compared to the number of graduates annually

Marginal Number	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50					No. Boards Examined by Marginal Number																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
	Mississippi		Missouri		Montana		Nebraska		Nevada		New Hampshire		New Jersey		New Mexico		New York		North Carolina		North Dakota		Ohio		Oklahoma		Oregon		Pennsylvania		Rhode Island			South Carolina		South Dakota		Tennessee		Texas		Utah		Vermont		Virginia		Washington		West Virginia		Wisconsin		Wyoming		Hawaii and Puerto Rico		Totals	Examined—Passed	Examined—Failed	Percentage—Failed																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F		P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F

from these schools. This is accounted for by the fact that the majority of their graduates take the examinations of the National Board of Medical Examiners. Table 11 includes figures and percentages of all examined during 1940, i. e. those who were examined by the National Board of Medical Examiners in their final examination as well as those passing state tests.

Graduates of Rush Medical College were examined in the greatest number of states, thirty-three; graduates of the University of Pennsylvania by twenty-eight states; Harvard Medical School twenty-seven, North-

The source of candidates for licensure last year are further tabulated in table 4 giving totals for five groups, namely approved medical schools in the United States and in Canada, medical schools extinct, schools in foreign countries and unrecognized institutions. Of the United States schools 5.1 per cent failed and 20.2 per

TABLE 7.—Source of Graduates of 1938, 1939 and 1940 Examined, 1940

Medical Schools	Examined	Passed	Failed	Percentage Failed
Approved, in United States....	4,768	4,560	208	4.4
Approved, in Canada.....	103	82	21	20.4
Foreign.....	320	156	164	51.3
Unapproved schools.....	291	185	106	36.4
Totals.....	5,482	4,983	499	9.1

western University twenty-five states, the College of Medical Evangelists twenty-three, Loyola University twenty-two and the University of Illinois and Johns Hopkins University in twenty states. All other schools had their graduates examined in fewer than twenty states. Graduates of Stanford University, the Universities of Southern California, Colorado and Georgia, Albany Medical College, University of Pittsburgh, Meharry Medical College, Vanderbilt and the University of Vermont were examined in less than five states. The Albany Medical College had but three of its graduates examined for licensure in two states, two were tested in Florida and one in Maine and all three passed. Graduates of four schools were examined in three states respectively.

TABLE 8.—Source of Graduates of 1938, 1939 and 1940, Respectively, Examined for Medical Licensure, 1940

Medical Schools	1938		1939		1940	
	Passed	Failed	Passed	Failed	Passed	Failed
Approved, in United States	379	23	1,065	72	3,116	113
Approved, in Canada.....	24	4	30	6	28	11
Foreign.....	83	107	67	44	6	13
Unapproved schools.....	29	29	55	35	101	42
Totals.....	515	163	1,217	157	3,251	179

TABLE 9.—Graduates of 1938, 1939, 1940, Respectively, Examined, 1940

Graduates of	Examined	Passed	Failed	Percentage Failed
1938.....	678	515	163	24.0
1939.....	1,374	1,217	157	11.4
1940.....	3,430	3,251	179	5.2
Totals.....	5,482	4,983	499	9.1

cent of the graduates of Canadian schools. The greatest percentage of failures represented two groups, foreign schools and unapproved schools. In these two groups 54.7 and 44.4 per cent, respectively, failed.

One hundred and sixty-three graduates of medical schools in Canada took the test for licensure in twenty-five states, the District of Columbia, Hawaii and Puerto Rico (table 6) of whom 130 passed and 33 failed. The greatest number (60) represented McGill Uni-

TABLE 10.—*Credentials Presented by Physicians for Licensure by Reciprocity and Endorsement, 1940*

[illegible]

TABLE 11.—Consolidated Examinations, State Medical Examining Boards and the National Board of Medical Examiners, 1940

Medical School	Examined by Medical Examining Boards		Part III of Examination of National Board of Medical Examiners		Totals		
	P	F	P	F	P	F	% F
Univ. of Arkansas.....	69	2	4	0	73	2	2.7
Coll. of Medical Evangelists.....	93	1	88	2	181	3	1.6
Stanford Univ.	56	1	1	0	57	1	1.7
Univ. of California.....	63	1	2	0	65	1	1.5
Univ. of Southern California.....	36	0	..	..	36	0	0.0
Univ. of Colorado.....	48	0	10	0	58	0	0.0
Yale Univ.	13	0	33	0	46	0	0.0
George Washington Univ.	51	5	9	0	60	5	7.7
Georgetown Univ.	62	16	26	1	88	17	16.2
Howard Univ.	29	1	2	0	31	1	3.1
Emory Univ.	67	1	1	0	68	1	1.4
Univ. of Georgia.....	46	0	..	..	46	0	0.0
Loyola Univ.	123	7	4	0	127	7	5.2
Northwestern Univ.	177	2	28	0	205	2	1.0
Rush Med. Coll.	136	6	11	0	147	6	3.9
Univ. of Chicago, Sch. of Med.	38	2	11	0	49	2	3.9
Univ. of Illinois.....	184	3	2	0	186	3	1.6
Indiana Univ.	115	1	4	0	119	1	0.8
State Univ. of Iowa.....	63	3	..	..	63	3	4.5
Univ. of Kansas.....	80	1	..	..	80	1	1.2
Univ. of Louisville.....	93	1	1	0	94	1	1.1
Louisiana State Univ.	77	2	..	..	77	2	2.5
Tulane Univ. of Louisiana.....	139	1	2	0	141	1	0.7
Johns Hopkins Univ.	83	2	8	0	91	2	2.1
Univ. of Maryland.....	102	3	2	0	104	3	2.8
Boston Univ.	13	3	37	1	50	4	7.4
Harvard Medical School.....	84	3	63	0	147	3	2.0
Tufts College.....	35	4	76	4	111	8	6.7
Univ. of Michigan.....	146	6	2	0	148	6	3.9
Wayne Univ.	63	1	..	..	63	1	1.6
Univ. of Minnesota.....	132	1	11	0	143	1	0.7
St. Louis Univ.	96	12	16	1	112	13	10.4
Washington Univ.	100	4	4	0	104	4	3.7
Creighton Univ.	62	5	3	0	65	5	7.1
Univ. of Nebraska.....	91	4	..	..	91	4	4.2
Albany Medical College.....	3	0	17	0	20	0	0.0
Columbia Univ.	93	18	11	0	104	18	14.8
Cornell Univ.	48	13	22	0	70	13	15.7
Long Island College.....	48	5	16	0	64	5	7.2
New York Medical College.....	23	0	51	5	74	5	6.3
New York Univ.	92	21	16	0	108	21	16.3
Syracuse Univ.	31	9	4	0	35	9	20.5
Univ. of Buffalo.....	26	10	37	0	63	10	13.7
Univ. of Rochester.....	27	3	..	..	27	3	10.0
Duke Univ.	18	0	46	2	64	2	3.0
Ohio State Univ.	82	1	..	..	82	1	1.2
Univ. of Cincinnati.....	87	1	3	0	90	1	1.1
Western Reserve Univ.	66	0	..	..	66	0	0.0
Univ. of Oklahoma.....	63	0	5	0	68	0	0.0
Univ. of Oregon.....	54	0	4	0	58	0	0.0
Hahnemann Medical College.....	132	25	..	..	132	25	15.9
Jefferson Medical College.....	130	5	4	0	134	5	3.6
Temple Univ.	119	8	..	..	119	8	6.3
Univ. of Pennsylvania.....	126	4	5	0	131	4	3.0
Univ. of Pittsburgh.....	52	2	1	0	53	2	3.6
Woman's Medical College.....	20	3	7	1	27	4	12.9
Med. Coll. of South Carolina.....	41	0	1	0	42	0	0.0
Meharry Medical College.....	45	1	2	0	47	1	2.1
Univ. of Tennessee.....	104	0	2	0	106	0	0.0
Vanderbilt Univ.	56	0	..	..	56	0	0.0
Baylor Univ.	79	11	..	..	79	11	12.2
Univ. of Texas.....	99	4	..	..	99	4	3.9
Univ. of Vermont.....	21	2	13	1	34	3	8.1
Medical College of Virginia.....	72	2	..	..	72	2	2.7
Univ. of Virginia.....	69	2	1	0	70	2	2.8
Marquette Univ.	71	7	4	0	75	7	8.5
Univ. of Wisconsin.....	64	0	..	..	64	0	0.0
Totals: U. S. schools.....	4,926	262	733	18	5,659	280	4.7
Dalhousie Univ.	16	6	..	..	16	6	27.3
Laval Univ.	1	3	..	..	1	3	75.0
McGill Univ.	49	11	11	0	60	11	15.5
Queen's Univ.	12	3	..	..	12	3	20.0
Univ. of Alberta.....	3	1	..	..	3	1	25.0
Univ. of Manitoba.....	5	1	1	0	6	1	14.3
Univ. of Montreal.....	1	3	..	..	1	3	75.0
Univ. of Toronto.....	30	2	..	..	30	2	6.2
Univ. of Western Ontario.....	13	3	1	0	14	3	17.7
Totals: Canadian schools.....	130	33	13	0	143	33	18.8
Foreign Medical Faculties.....	948	1,144	24	3	972	1,147	54.1
Extinct Medical Schools.....	5	0	..	..	5	0	0.0
Unapproved Schools.....	273	200	..	..	273	200	44.4
Totals.....	6,282	1,639	770	21	7,052	1,660	19.1

P = Passed; F = Failed.

versity Faculty of Medicine, who were examined in fifteen states: 32 graduates of the University of Toronto Faculty of Medicine in seventeen states, while 22 from Dalhousie University Faculty of Medicine applied for licensure in three states. The highest percentage of

failures was 75, representing 4 graduates examined from each of two schools, Laval University Faculty of Medicine and the University of Montreal Faculty of Medicine. Of these, one passed and three failed. The state of New York examined 71 of the 163 Canadian graduates, California examined 19 and Maine 10. All other states fewer than 10, and in nineteen states fewer than 5.

Further perusal of table 2 reveals that 5 graduates of medical schools now extinct were examined in four

TABLE 12.—Failures Before Medical Licensing Boards by Licentiates, 1940

	Licenses Issued by Examination, Reciprocity or Endorsement	Licensed After One Failure		Licensed After Two or More Failures	
		Failed in State Where Licensed	Elsewhere	Failed in State Where Licensed	Failed in State Where Licensed and Elsewhere
Alabama.....	62	..	4	..	..
Arizona.....	36	1	1	..	..
Arkansas.....	84	..	..	..	..
California.....	608	18	6	3	4
Colorado.....	92	1	..	..	..
Connecticut.....	125	12	3	4	..
Delaware.....	16	..	..	..	..
Dist. of Columbia.....	104	..	1	..	..
Florida.....	131	2	..	1	1
Georgia.....	123	..	1	..	..
Idaho.....	40	..	..	..	..
Illinois.....	690	5	4	..	..
Indiana.....	191	..	..	..	..
Iowa.....	180	2	..	1	..
Kansas.....	111	..	..	..	..
Kentucky.....	131	..	1	..	..
Louisiana.....	185	..	1	..	..
Maine.....	47	2	1	..	1
Maryland.....	223	2	4	..	..
Massachusetts.....	451	30	30	63	10
Michigan.....	340	..	4	..	1
Minnesota.....	223	..	..	..	..
Mississippi.....	75	..	..	..	..
Missouri.....	258	1	2	..	1
Montana.....	36	..	..	..	..
Nebraska.....	99	..	1	..	..
Nevada.....	14	..	..	..	..
New Hampshire.....	50	..	..	..	..
New Jersey.....	343	6	5	8	4
New Mexico.....	46	..	..	..	1
New York.....	1,200	177	5	155	3
North Carolina.....	145	..	1	..	..
North Dakota.....	35	..	..	..	..
Ohio.....	444	7	8	3	6
Oklahoma.....	81	..	..	..	3
Oregon.....	56	..	..	..	..
Pennsylvania.....	561	2	1	..	1
Rhode Island.....	24	..	..	..	..
South Carolina.....	58	..	..	..	..
South Dakota.....	15	..	..	..	..
Tennessee.....	238	1	1	..	1
Texas.....	355	14	1	1	..
Utah.....	23	..	..	..	..
Vermont.....	42	1	3	..	1
Virginia.....	222	..	1	..	..
Washington.....	95	..	..	..	..
West Virginia.....	88	..	..	..	..
Wisconsin.....	159	..	..	..	..
Wyoming.....	22	1	1	..	..
Puerto Rico.....	46	..	..	1	1
Totals.....	9,115	285	89	239	44

states, Florida, Iowa, Louisiana and West Virginia. None of these examinees failed.

Twenty-two states examined 2,092 graduates of medical schools other than those in the United States and Canada. They were also tested in Puerto Rico. In 1940 also 473 unapproved graduates were examined in eleven states, namely California, Colorado, Connecticut, Illinois, Massachusetts, New Hampshire, New Jersey, Pennsylvania, Texas, Wisconsin and Wyoming, and in the District of Columbia and Puerto Rico.

In 1939, 7,750 were examined, of whom 6,489 passed and 1,261, or 16.3 per cent, failed, as compared with 7,921 examined in 1940, of whom 6,282 passed and 1,639, or 20.7 per cent, failed. Elsewhere are given figures referring to actual licentiates and additions to the medical profession.

GRADUATES OF 1938, 1939 AND 1940 EXAMINED
FOR MEDICAL LICENSURE, 1940

In table 5 are presented figures recording graduates of 1938, 1939 and 1940 examined for medical licensure in 1940. Altogether 5,482 were examined, of whom 4,983 passed and 499, or 9.1 per cent, failed. Repre-

were 320 recent graduates of medical schools other than in the United States and Canada examined of whom 156 passed and 164, or 51.3 per cent, failed. There were also examined 291 graduates of schools not approved by the American Medical Association and graduates of schools of osteopathy, of whom 185 passed

TABLE 13.—Reciprocity and

Compilation of data furnished by state examining boards. This information is not guaranteed, as there may have been

Reciprocates with, or Endorses Certificates Granted by

Marginal Number	The Examining Board of	Alabama	Arizona	Arkansas	California	Colorado	Connecticut	Delaware	Dist. of Columbia	Florida	Georgia	Idaho	Illinois	Indiana	Iowa	Kansas	Kentucky	Louisiana	Maine	Maryland	Massachusetts	Michigan	Minnesota	Mississippi	Missouri	Montana	Nebraska	Nevada	New Hampshire	New Jersey	New Mexico	Marginal Number
1	Alabama.....	..	..	+	+	+	..	+	+	+	+	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
2	Arizona.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
3	Arkansas (regular board).....	+	+	..	+	+	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3
4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4
5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5
6	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	6
7	Delaware (regular board).....	No reciprocity or endorsement policies	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	7
8	District of Columbia.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	8
9	Florida.....	No reciprocity or endorsement policies	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	9
10	Georgia.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	10
11	Idaho.....	No reciprocity or endorsement policies	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	11
12	Illinois.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	12
13	Indiana.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	13
14	Iowa.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	14
15	Kansas.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	15
16	Kentucky.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	16
17	Louisiana (regular board).....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	17
18	Maine.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	18
19	Maryland (regular board).....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	19
20	Massachusetts.....	No reciprocal relations	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	20
21	Michigan.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	21
22	Minnesota.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	22
23	Mississippi.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	23
24	Missouri.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	24
25	Montana.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	25
26	Nebraska.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	26
27	Nevada.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	27
28	New Hampshire.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	28
29	New Jersey.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	29
30	New Mexico.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	30
31	New York.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	31
32	North Carolina.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	32
33	North Dakota.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	33
34	Ohio.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	34
35	Oklahoma.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	35
36	Oregon.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	36
37	Pennsylvania.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	37
38	Rhode Island.....	No reciprocal relations	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	38
39	South Carolina.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	39
40	South Dakota.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	40
41	Tennessee.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	41
42	Texas.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	42
43	Utah.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	43
44	Vermont.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	44
45	Virginia.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	45
46	Washington.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	46
47	West Virginia.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	47
48	Wisconsin.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	48
49	Wyoming.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	49
50	Alaska.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	50
51	Hawaii.....	No reciprocal relations	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	51
52	Puerto Rico.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	52

Some states have additional requirements for graduates of schools outside the United States and Canada.

1. 1st P. first papers required; +, full citizenship required.
2. In most cases there is a small additional recording or registration fee.
3. If state of original license grants similar privileges.
4. Internship accepted in lieu of one year's practice.
5. Professional practice required.
6. No professional practice required.
7. Just preceding application.
8. No basic science reciprocity—examination must be within the state.
9. Basic science certificate required either by reciprocity or examination in addition to basic science subjects of National Board.
10. Reserve officers not eligible.
11. Applicant's diplomate certificate must be dated not less than one year or more than ten years prior to the filing date in California of an application; applicant must also have been a resident of some state

or territory of the United States for a period of at least one year after the date of his diplomate certificate.

12. Oral examination required when original license is ten or more years old.
13. Applicant must have resided in the state used as basis of application for one year after date on said certificate.
14. Oral examination required.
15. Unless in practice in another state for five years.
16. Actual practice for a period of three years immediately preceding date of application.
17. Practical, clinical examination required.
19. Regular and Homeopathic boards.
20. Graduates of foreign medical schools accepted if they present also a diploma from an approved medical school in the United States.
21. Regular board.
22. Fee same as applicant's state charges if more than \$50.
23. Oral examination required if applicant's state requires it.

sented were 4,768 graduates of sixty-seven approved medical schools in the United States, of whom 4,560 passed and 208, or 4.4 per cent, failed. From the nine approved medical schools in Canada which offer the complete medical course, 103 were examined, 82 of whom passed and 21, or 20.4 per cent, failed. There

and 106, or 36.4 per cent, failed. These figures will be found in table 8.

Canada 51.3 per cent and unapproved schools 36.4 per cent.

Twenty schools in the United States had no failures among recent graduates applying for licensure, twenty-nine schools had less than 5 per cent and eighteen more than 5 ranging to 28.1 per cent.

Endorsement Policies

changes of which this office has not been advised. For an authentic statement write directly to the medical board.

Marginal Number	Reciprocates with, or Endorses Certificates Granted by		Requirements		Marginal Number
	State	Country	Requirement	Fee, Dollars	
1	New York	+	Professional Practice	14	1
2	North Carolina	+	Citizenship	14	2
3	North Dakota	+	Professional Practice	14	3
4	Ohio	+	Citizenship	14	4
5	Oklahoma	+	Professional Practice	14	5
6	Oregon	+	Citizenship	14	6
7	Pennsylvania	+	Professional Practice	14	7
8	Rhode Island	+	Citizenship	14	8
9	South Carolina	+	Professional Practice	14	9
10	South Dakota	+	Citizenship	14	10
11	Tennessee	+	Professional Practice	14	11
12	Texas	+	Citizenship	14	12
13	Utah	+	Professional Practice	14	13
14	Vermont	+	Citizenship	14	14
15	Virginia	+	Professional Practice	14	15
16	Washington	+	Citizenship	14	16
17	West Virginia	+	Professional Practice	14	17
18	Wisconsin	+	Citizenship	14	18
19	Wyoming	+	Professional Practice	14	19
20	Alaska	+	Citizenship	14	20
21	Puerto Rico	+	Professional Practice	14	21
22	At the Discretion of the Board	+	Citizenship	14	22
23	National Board of Medical Examiners	+	Professional Practice	14	23
24	U. S. Government Services	+	Citizenship	14	24
25	Basic Science Certificate	+	Professional Practice	14	25
26	Internship	+	Citizenship	14	26
27	Professional Practice	+	Professional Practice	14	27
28	Citizenship	+	Citizenship	14	28
29	Fees, Dollars	+	Fees, Dollars	14	29
30	Miscellaneous	+	Miscellaneous	14	30

24. If an applicant passes the examination in the state from which he transfers after the completion of his internship, no practice is required.

25. Internship accepted if served in this state.

26. Internship accepted—considered equivalent to two years' practice.

27. Five years' practice.

25. Conditionally.

29. A two year internship is accepted.

30. License by National Board certificate at examination fee of \$15 unless holding a license from another state.

31. Graduates before 1907 required to take oral examination.

32. Clinical examination required.

S3. Reciprocity applicants only.

34. Supplemental examination required in certain cases when accepting the examination of a state with whom reciprocal relations have not been established.

35. May be licensed after a special (written) supplemental examination.

36. Fee for license on basis of National Board certificate \$25.

37. For matriculants after Oct. 17, 1937.

38. Fee, \$20.

39. While on active duty only.

40. Permanent license withheld until completion of citizenship.

41. Graduates of foreign medical schools effective Sept. 15, 1935.
Canadian schools exempted effective Sept. 19, 1939.

42. Graduates of foreign medical schools are not accepted.

43. Graduates of foreign medical schools must have fulfilled all requirements of California prior to admittance to examination for any certificate used as basis of application to California.

44. A New York license not acceptable.

45. Not applicable to citizens of Canada.

46. Canadian citizens are required to file first papers.

47. Fee, \$15

48. Same as required of Utah candidates applying for licensure.

The greatest number examined by any one state was New York, 807; Pennsylvania was second with 461; Illinois 424, California 353 and Ohio 268.

More than 100 from each of thirteen schools were examined, the highest being 159 graduates of Northwestern University Medical School who appeared before

licensing boards in twenty-five states. Thirty-four graduates of McGill University Faculty of Medicine, the greatest number from any one Canadian school, were tested in eleven states, while only one from the Faculty of Medicine of the University of Montreal appeared for registration. Only 10 medical graduates

of Yale University were examined in seven states and 16 from Duke University School of Medicine were examined in eight states. Very few also from Boston University School of Medicine, Tufts College Medical School, Albany Medical College and the New York

(CONTINUED ON PAGE 2036)

TABLE 14.—Candidates Licensed by Reciprocity and Endorsement, 1940

[illegible]

NEBRASKA

31 Creighton University School of Medicine..... 40 31
35 University of Nebraska College of Medicine..... 70 35

NEW YORK

27 Albany Medical College..... 8 36
37 Columbia University College of Physicians and Surgeons..... 51 37
39 Cornell University Medical College..... 53 38
39 Long Island College of Medicine..... 37 39
40 New York Medical College, Flower and Fifth Avenue Hospitals..... 43 40
41 New York University College of Medicine..... 43 41
42 Syracuse University College of Medicine..... 43 42
43 University of Buffalo School of Medicine..... 30 43
44 University of Rochester School of Medicine and Dentistry..... 19 44

NORTH CAROLINA

45 Duke University School of Medicine..... 43 45

OHIO

46 Ohio State University College of Medicine..... 32 46
47 University of Cincinnati College of Medicine..... 39 47
48 Western Reserve University School of Medicine..... 27 48

OKLAHOMA

49 University of Oklahoma School of Medicine..... 30 40

OREGON

50 University of Oregon Medical School..... 26 50

PENNSYLVANIA

51 Hahnemann Medical College and Hospital of Philadelphia..... 30 51
52 Jefferson Medical College of Philadelphia..... 50 52
53 Temple University School of Medicine..... 21 53
54 University of Pennsylvania School of Medicine..... 47 54
55 University of Pittsburgh School of Medicine..... 7 55
56 Woman's Medical College of Pennsylvania..... 10 56

SOUTH CAROLINA

57 Medical College of the State of South Carolina..... 11 57

TENNESSEE

58 Meharry Medical College..... 39 58
59 University of Tennessee College of Medicine..... 84 59
60 Vanderbilt University School of Medicine..... 31 60

TEXAS

61 Baylor University College of Medicine..... 26 61
62 University of Texas Faculty of Medicine..... 22 62

VERMONT

63 University of Vermont College of Medicine..... 21 63

VIRGINIA

64 Medical College of Virginia..... 40 64
65 University of Virginia Department of Medicine..... 23 65

WISCONSIN

66 Marquette University School of Medicine..... 20 66
67 University of Wisconsin Medical School..... 21 67

CANADA

68 Dalhousie University Faculty of Medicine..... 1 68
69 Laval University Faculty of Medicine..... 2 69
70 McGill University Faculty of Medicine..... 20 70
71 Queen's University Faculty of Medicine..... 4 71
72 University of Alberta Faculty of Medicine..... 2 72
73 University of Manitoba Faculty of Medicine..... 4 73
74 University of Toronto Faculty of Medicine..... 0 74
75 University of Western Ontario Medical School..... 10 75

76 Foreign Medical Faculties..... 67 76
77 Extinct Medical Schools..... 31 77
78 Unapproved Schools..... 31 78

79 Totals..... 6 18 2,838 79

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50

(CONTINUED FROM PAGE 2033)

Medical College applied for licensure by this method. The majority of the graduates of these schools with few examinees obtain the certificate of the National Board of Medical Examiners and receive their state license to practice medicine by endorsement of this certificate.

TABLE 15.—*Licentiatees Representing Additions to the Medical Profession, 1940*

	Examination	Reciprocity and Endorsement	Total
Alabama.....	9	1	10
Arizona.....	10	..	10
Arkansas.....	58	..	58
California.....	350	8	358
Colorado.....	73	1	74
Connecticut.....	40	23	63
Delaware.....	8	..	8
District of Columbia.....	33	16	49
Florida.....	23	..	23
Georgia.....	85	1	86
Idaho.....	13	..	13
Illinois.....	498	20	518
Indiana.....	113	1	114
Iowa.....	88	5	93
Kansas.....	85	..	85
Kentucky.....	81	2	83
Louisiana.....	133	..	133
Maine.....	20	3	23
Maryland.....	164	10	174
Massachusetts.....	261	85	346
Michigan.....	186	5	191
..	124	6	130
..	40	..	40
Missouri.....	173	3	176
Montana.....	6	..	6
Nebraska.....	84	..	84
Nevada.....	1	..	1
New Hampshire.....	11	8	19
New Jersey.....	171	8	179
New Mexico.....	..	1	1
New York.....	892	169	1,061
North Carolina.....	65	15	80
North Dakota.....	6	1	7
Ohio.....	296	5	301
Oklahoma.....	38	..	38
Oregon.....	25	5	30
Pennsylvania.....	394	14	408
Rhode Island.....	8	3	11
South Carolina.....	37	2	39
South Dakota.....	4	..	4
Tennessee.....	195	1	196
Texas.....	199	2	201
Utah.....	6	1	7
Vermont.....	16	6	22
Virginia.....	142	7	149
Washington.....	29	3	32
West Virginia.....	16	3	19
Wisconsin.....	104	..	104
Wyoming.....	3	1	4
Hawaii and Puerto Rico.....	12	6	18
Totals.....	5,428	451	5,879

The figures shown in the table just described are subdivided by years in table 7, giving totals, passed and failed, separately for the graduates of (a) approved medical schools in the United States, (b) approved medical schools in Canada, (c) foreign faculties of medicine and (d) unapproved schools and schools

TABLE 16.—*Licentiatees Representing Additions to the Medical Profession, 1935-1940*

Year	Examination	Reciprocity and Endorsement	Total
1935.....	5,099	411	5,510
1936.....	5,548	629	6,177
1937.....	5,812	612	6,424
1938.....	5,753	501	6,250
1939.....	5,584	460	6,044
1940.....	5,428	451	5,879
Totals.....	33,229	3,064	36,293

of osteopathy. Of the 3,430 graduates of all medical schools in 1940 (table 8) 179 failed; 157 of the 1,374 graduates of 1939 failed and 163 of the 678 graduates of 1938 failed. The greatest percentage of failures was among graduates of foreign and unapproved schools.

In table 9 is recorded the number of graduates of 1938, 1939 and 1940, respectively, examined and the results for each year.

TABLE 17.—*Licentiatees Representing Additions to the Medical Profession Grouped in Geographic Divisions, 1940*

	Examination	Reciprocity and Endorsement	Total
New England			
Maine.....	20	3	23
New Hampshire.....	11	8	19
Vermont.....	16	6	22
..	261	85	346
..	8	3	11
..	40	2	63
Middle Atlantic	356	123	484
New York.....	892	169	1,061
New Jersey.....	171	8	179
Pennsylvania.....	394	14	408
East North Central	1,457	191	1,648
Ohio.....	296	5	301
Indiana.....	113	1	114
Illinois.....	498	20	518
Michigan.....	186	5	191
Wisconsin.....	104	..	104
West North Central	1,197	31	1,228
Minnesota.....	124	6	130
Iowa.....	88	5	93
Missouri.....	173	3	176
North Dakota.....	6	1	7
South Dakota.....	4	..	4
Nebraska.....	84	..	84
Kansas.....	85	..	85
South Atlantic	564	15	579
..	8	..	8
..	164	10	174
..	33	16	49
Virginia.....	142	7	149
West Virginia.....	16	3	19
North Carolina.....	65	15	80
South Carolina.....	37	2	39
Georgia.....	85	1	86
Florida.....	23	..	23
East South Central	573	54	627
Kentucky.....	81	2	83
..	195	1	196
..	9	1	10
..	40	..	40
West South Central	325	4	329
Arkansas.....	58	..	58
Louisiana.....	133	..	133
Oklahoma.....	38	..	38
Texas.....	199	2	201
Mountain	428	2	430
Montana.....	6	..	6
Idaho.....	13	..	13
..	3	1	4
..	73	1	74
..	..	1	1
Arizona.....	10	..	10
Utah.....	6	1	7
Nevada.....	1	..	1
Pacific	112	4	116
Washington.....	29	3	32
Oregon.....	25	5	30
California.....	350	8	358
Territory and Possession	404	16	420
Hawaii.....	1	6	7
Puerto Rico.....	11	..	11
..	12	6	18
Totals.....	5,428	451	5,879

CONSOLIDATED EXAMINATIONS

In table 11 are presented for each approved medical school in the United States and Canada the number of physicians examined for medical licensure, as well as the number who appeared for Part III, the final examination, of the National Board of Medical Examiners in 1940. It will be noted that in some instances schools having a high percentage of failures before licensing

boards had few, if any, failures before the National Board. In some cases also more were examined by the National Board. During the year 4,926 graduates of approved medical schools in the United States were examined by medical licensing boards, of whom 5.1 per cent failed, while in the consolidated figures, 5,939 were examined and 280, or 4.7 per cent, failed. Of the Canadian schools, 20.2 per cent failed state board tests and 18.8 the combined tests. Very little change was effected by combining figures for foreign graduates.

FAILURES BEFORE MEDICAL LICENSING BOARDS
BY LICENTIATES, 1940

In table 12 are presented for each state the number licensed after failing a state licensing examination once and after two or more failures, these two groups being classified by indication whether the failure or failures have been in the state in which they are receiving a license or elsewhere and also if the failure has been in this state where licensed and elsewhere. The total number of candidates examined and licensed or granted

TABLE 18.—Licentiates Representing Additions to the Medical Profession Classified by Schools, 1940

School	Examination	Reciprocity and Endorsement	Total
ARKANSAS			
University of Arkansas School of Medicine.....	66	2	68
CALIFORNIA			
College of Medical Evangelists.....	85	16	101
Stanford University School of Medicine.....	55	..	55
University of California Medical School.....	58	1	59
University of Southern California School of Medicine	35	..	35
COLORADO			
University of Colorado School of Medicine.....	48	2	50
CONNECTICUT			
Yale University School of Medicine.....	6	28	34
DISTRICT OF COLUMBIA			
George Washington University School of Medicine....	40	8	48
Georgetown University School of Medicine.....	54	20	74
Howard University College of Medicine.....	28	..	28
GEORGIA			
Emory University School of Medicine.....	48	2	50
University of Georgia School of Medicine.....	32	..	32
ILLINOIS			
Loyola University School of Medicine.....	106	2	108
Northwestern University Medical School.....	145	14	159
University of Chicago, Rush Medical College.....	111	7	118
University of Chicago, The School of Medicine.....	31	4	35
University of Illinois College of Medicine.....	153	1	154
INDIANA			
Indiana University School of Medicine.....	104	..	104
IOWA			
State University of Iowa College of Medicine.....	75	..	75
KANSAS			
University of Kansas School of Medicine.....	69	..	69
KENTUCKY			
University of Louisville School of Medicine.....	90	2	92
LOUISIANA			
Louisiana State University School of Medicine.....	65	..	66
Tulane University of Louisiana School of Medicine...	114	..	114
MARYLAND			
Johns Hopkins University School of Medicine.....	61	9	70
University of Maryland School of Medicine and Col- lege of Physicians and Surgeons.....	92	..	92
MASSACHUSETTS			
Boston Unlvers.....	14	24	38
Harvard Media.....	65	41	107
Tufts College.....	27	48	75
MICHIGAN			
University of Michigan Medical School.....	94	1	95
Wayne University College of Medicine.....	56	..	56
MINNESOTA			
University of Minnesota Medical School.....	99	5	104
MISSOURI			
St. Louis University School of Medicine.....	78	5	83
Washington University School of Medicine.....	86	4	90
NEBRASKA			
Creighton University School of Medicine.....	53	..	53
University of Nebraska College of Medicine.....	75	..	75
NEW YORK			
Albany Medical College.....	3	4	7
Columbia University College of Phys. and Surgs.....	74	8	82
Cornell University Medical College.....	59	19	58
NEW YORK—Continued			
Long Island College of	43	15	58
New York Med. Coll., Flc.....	19	38	57
New York University College of Medicine.....	84	16	100
Syracuse University College of Medicine.....	28	3	31
University of Buffalo School of Medicine.....	19	17	36
University of Rochester School of Med. and Dentistry	20	..	20
NORTH CAROLINA			
Duke University School of Medicine.....	17	28	45
OHIO			
Ohio State University College of Medicine.....	76	..	76
University of Cincinnati College of Medicine.....	78	1	79
Western Reserve University School of Medicine.....	60	..	60
OKLAHOMA			
University of Oklahoma School of Medicine.....	46	..	46
OREGON			
University of Oregon Medical School.....	44	..	44
PENNSYLVANIA			
Hahnemann Medical College and Hospital of Phila....	105	..	105
Jefferson Medical College of Philadelphia.....	117	2	119
Temple University School of Medicine.....	108	..	108
University of Pennsylvania School of Medicine.....	104	4	108
University of Pittsburgh School of Medicine.....	50	..	50
Woman's Medical College of Pennsylvania.....	16	3	19
SOUTH CAROLINA			
Medical College of the State of South Carolina.....	34	1	35
TENNESSEE			
Meharry Medical College.....	38	..	38
University of Tennessee College of Medicine.....	95	1	96
Vanderbilt University School of Medicine.....	54	1	55
TEXAS			
Baylor University College of Medicine.....	75	1	76
University of Texas Faculty of Medicine.....	87	1	88
VERMONT			
University of Vermont College of Medicine.....	17	12	29
VIRGINIA			
Medical College of Virginia.....	63	3	66
University of Virginia.....	63	..	63
WISCONSIN			
Marquette University.....	66	2	68
University of Wisconsin.....	55	1	56
CANADA			
Dalhousie University Faculty of Medicine.....	15	..	15
Laval University Faculty of Medicine.....	1	..	1
McGill University Faculty of Medicine.....	28	5	43
Queen's University Faculty of Medicine.....	10	..	10
University of Alberta Faculty of Medicine.....	2	..	2
University of Manitoba Faculty of Medicine.....	3	1	4
University of Toronto Faculty of Medicine.....	19	1	20
University of Western Ontario Medical School.....	10	..	10
Foreign Medical Faculties.....			
Extinct Medical Schools.....	57	11	868
Unapproved Schools.....	251	2	253
Totals.....	5,128	451	5,479

The National Board did not examine any one from unapproved or extinct schools. The total of all examined before medical licensing boards was 7,921, of whom 6,282 passed and 1,639, or 20.7 per cent, failed. For both groups, 8,712 were examined, 7,052 passed and 1,660, or 19.1 per cent, failed. From this table it will be noted that the greatest number examined represented Northwestern University Medical School, 205, only 1 per cent of whom failed. From twenty schools more than 100 were examined. The total percentage of failures has been slightly reduced by including figures for the National Board but very materially so for certain individual schools.

licenses by endorsement or reciprocity in each state is also shown.

Of the 9,115 licenses issued during 1940, 702 had previously been unsuccessful before a licensing board. Of these, 285 were registered after having failed in one examination in the state in which they were licensed and 89 elsewhere, while 239 made more than one attempt to pass the licensing test in the state awarding the 1940 license, 44 elsewhere and 45 failed in the state where licensed in 1940 and also elsewhere.

In the computation of these statistics it was noted that 52 licentiates had failed at least five times. It was revealed that 16 failed five times, 8 had six failures,

9 failed seven and 6 eight times, 3 had nine failures, 3 ten, 3 eleven and 2 failed twelve times. Noteworthy were 2 candidates licensed in Massachusetts, 1 after nineteen and the other after twenty-five failures. The great majority of these physicians were Massachusetts examinees and graduates of unapproved schools. Fifteen received their education in foreign faculties of medicine. Of this group 1 failed seven times, the greatest number. There was 1 graduate of an approved medical school in the United States who made six attempts before securing registration.

Twenty-one states licensed in 1940 only physicians who never failed a state board examination, while New York licensed 358, Massachusetts 149 and California and New Jersey 32 who had already failed. Licensure of candidates having failures occurred in twenty-seven states, the District of Columbia and Puerto Rico. With the exception of California, Connecticut, Massachusetts, New Jersey, New York, Ohio and Texas no state licensed more than 15.

AGE AT LICENSURE

An examination of the records of candidates issued licenses in 1940 revealed the average age at first licensure to be 26 years while for those receiving original licenses by endorsement the age computed was 28.7. It appears that over 600 were born in 1913 and 1915 and more than 900 in 1914. In the endorsement group 67 were born in 1911, 77 in 1913, 62 in 1914 and 101 in 1912.

REGISTRATION BY RECIPROCITY AND ENDORSEMENT

The reciprocity or endorsement policies of the various states, the District of Columbia, Alaska, Hawaii, and Puerto Rico are presented in table 13. Definite reciprocal relations are reported by twenty-five states. Twenty-four states, including four that have regularly established reciprocal relations, will register licentiates who present credentials which correspond to those required by their respective states at the time such licenses were issued. The medical practice acts give the examining boards the privilege of using their discretion in determining the acceptability of a candidate. This chart has proved to be of material assistance to those contemplating moving their practice. In addition, there is also indicated whether diplomates of the National Board of Medical Examiners and retired officers of the government services are eligible for licensure on the basis of their credentials. Specific requirements such as professional practice, basic science certificate, oral examination and internship are recorded, as is also the fee for a license without written examination. For the benefit of physicians migrating to this country there is included a column outlining citizenship requirements. By footnote it can be noted whether physicians of Canadian birth are exempt from the citizenship requisite. In the majority of states graduates of foreign medical schools are not accepted on a reciprocal basis. Delaware, Florida, Idaho, Massachusetts, Rhode Island and Hawaii do not have reciprocal agreements with any state. Massachusetts, Rhode Island and Hawaii, however, will register diplomates of the National Board of Medical Examiners by endorsement. Those desiring licenses by reciprocity or endorsement in Arizona, Arkansas, Colorado, Connecticut, District of Columbia, Florida, Iowa, Michigan, Minnesota, Nebraska, Oklahoma, Oregon, Rhode Island, South Dakota, Washington and Wisconsin are required to obtain a certificate from the board of

examiners in the basic sciences before being eligible for licensure. Other requisites or exemptions are mentioned in the footnotes. Some states also have additional requirements for graduates of schools outside the United States and Canada.

The number of physicians granted licenses in 1940 to practice medicine and surgery without examination on presentation of satisfactory credentials is given in table 10. There were 2,834 so registered who presented licenses from other states, the District of Columbia, Canada and foreign countries, the certificate of the National Board of Medical Examiners, one of the government services, or other credentials. The greatest number of licenses by this method were issued in New York, where 334 were registered. Seven other states endorsed more than 100 such candidates: California 212; New Jersey 164; Illinois 148; Texas 145; Michigan 137; Ohio 136 and Massachusetts 113. The largest group representing the same type of credentials were the 696 diplomates of the National Board of Medical Examiners. More than 100 physicians holding licenses in Illinois, Maryland, Missouri, Nebraska, New York, Ohio and Tennessee, respectively, were licensed in other states. The greatest number, 180, from any one state who secured licenses by endorsement was from New York, while 334 were registered in this state on the basis of credentials. These 334 physicians presented licenses from twenty-six states, the District of Columbia, Puerto Rico, Canada, France and Germany, or the certificate of the National Board of Medical Examiners. Only two licenses were granted during the year by endorsement of a license from Europe. Both were issued in New York. Two also were registered on the basis of Canadian credentials; 1 in New Hampshire presented a provincial license issued in Quebec, and the other licensed in New York on the basis of a dominion certificate. Four states accepted credentials from the territories and possessions of the United States. In the District of Columbia and Texas a licentiate of Alaska was registered, while California registered 1 from Hawaii and New York 1 from Puerto Rico. In addition, 6 were admitted to private practice in the Virgin Islands.

Twelve physicians were registered on the basis of commissions in the government services. Seven holding credentials from the U. S. Navy were given the right to practice without the requirement of an examination, as follows: California licensed 2, Kentucky 1, Texas and Virginia, 2 each. Two, 1 in California and in North Carolina, respectively, were certified on credentials from the U. S. Army and 3, 2 in California and 1 in Wisconsin, by endorsement of connections with the United States Public Health Service.

Not included in the table are 4 osteopaths licensed by the board of examiners in three states, namely 2 in New Hampshire and 1 in Texas granted the right to practice medicine and surgery, and 1 in Oregon was licensed to practice osteopathy and surgery.

Of the five homeopathic boards in existence—Arkansas, Connecticut, Delaware, Louisiana and Maryland—only one issued a license without examination. In Connecticut a diplomate of the National Board of Medical Examiners was so registered. The Eclectic Medical Examining Board in Arkansas did not register any one.

Diplomates of the National Board of Medical Examiners were registered in forty-two states and Hawaii.

New York had the greatest number of its licentiates certified in other states, 53, who were given the right to practice in New Jersey. Alabama, Arizona, Dela-

ware, Florida, Idaho, Montana, New Hampshire, New Mexico, North Dakota, Rhode Island, South Dakota, Utah, Vermont and Wyoming had less than 10 of their licentiates endorsed to other states. Nevada had no physicians endorsed. Delaware had 1 endorsed while Idaho and New Mexico had 2 each and Rhode Island 4.

Included among United States territories and possessions are Alaska, Hawaii, Puerto Rico and the Virgin Islands.

A total of 2,834 physicians secured licenses by endorsement of their credentials in 1940.

The physicians so licensed by reciprocity and endorsement and, in addition, 4 osteopaths registered by medical examining boards, are recorded by school of graduation and state or territory where licensed in table 14. Sixty-seven approved medical schools in the United States were represented, as well as eight in Canada, thirty-four faculties of medicine and two licensing corporations of other countries, twenty-seven medical schools now extinct, one unapproved school and several osteopathic colleges. The largest number of graduates of any one school were from Harvard Medical School, 99, who were licensed in twenty-seven states, Hawaii and the Virgin Islands; Tufts College Medical School had 85 licensed by this method in eighteen states and 82 graduates of St. Louis University School of Medicine in twenty-one states. Those holding degrees from institutions in foreign countries were recognized in fourteen states where 67 were registered on the basis of another state license issued in the United States. Thirty-four from schools now extinct migrated to seventeen states and 31 graduates of unapproved institutions received certificates to practice in eight states.

Of the 2,838 candidates licensed by reciprocity and endorsement, 2,654 were graduates of approved medical schools in the United States, 52 of nine schools so approved in Canada, 67 graduates of foreign medical faculties, 34 of institutions now extinct and 27 of unapproved schools and 4 from osteopathic colleges.

Four schools had fewer than 10 of its graduates registered by this process while forty-six had more than 25. Twenty from McGill University Faculty of Medicine appeared in ten states and the Virgin Islands. None represented the University of Montreal Faculty of Medicine and only 1 Dalhousie University Faculty of Medicine.

LICENTIATES REPRESENTING ADDITIONS TO THE MEDICAL PROFESSION

Licentiates representing additions to the medical profession during 1940 are recorded in table 15. The figures represent candidates examined in 1940 and licensed; also those examined in previous years whose licenses were withheld for lack of internship, citizenship, and so on, and issued in 1940, and those without a previous state license who were during the year certified on the basis of the certificate of the National Board of Medical Examiners, government services, Canadian and foreign credentials. In the main, however, they represent recent graduates. Altogether, 5,879 were added to the profession. The number removed by death annually approximates 4,000. It would appear that about 2,000 were added to the medical profession in 1940. While it is not certain that all those licensed are in practice, it may be assumed that the great majority are. It is interesting to note that of 9,115 licenses issued throughout the year, 5,879 are actual additions to the medical profession. The greatest number in any one

state were added in New York, 1,061; Illinois added 518 and Pennsylvania 408. More than 300 received their first license in California, Massachusetts and Ohio. The states of Indiana, Louisiana, Maryland, Michigan, Minnesota, Missouri, New Jersey, Tennessee, Texas, Virginia and Wisconsin increased their population of physicians by between 100 and 201. Thirty states, the District of Columbia, Hawaii and Puerto Rico added less than 100. Of the licentiates forming additions to the medical profession last year, 5,428 secured this privilege by examination and 451 by the endorsement of credentials. Those licensed by endorsement consist of a few licensed on foreign credentials, but the great majority are diplomates of the National Board of Medical Examiners.

Figures for five previous years and 1940 are shown in table 16 for comparison. In 1935 there were 5,099 added by means of examination and 411 by endorsement of credentials, a total of 5,510. In 1936 there were 667 more added than in the previous year; in 1937, 247 more than in 1936, and 914 more than in

TABLE 19.—Requirements of Preliminary Training by Medical Licensing Boards

Two Years or More of College		
Alabama	Louisiana	Oregon
Alaska	Maine	Pennsylvania
Arizona	Maryland	Puerto Rico
Arkansas	Michigan	Rhode Island
Colorado	Minnesota	South Carolina
Delaware	Mississippi	South Dakota
District of Columbia	Montana	Tennessee
Florida	Nevada	Texas
Georgia	New Hampshire	Utah
Hawaii	New Jersey	Vermont
Idaho	New Mexico	Virginia
Illinois	New York	Washington
Indiana	North Carolina	West Virginia
Iowa	North Dakota	Wisconsin
Kansas	Ohio	Wyoming
Kentucky	Oklahoma	
One Year of College		
California		Connecticut
High School Graduation or Its Equivalent		
Massachusetts	Missouri	Nebraska

1935. In 1938 there were 165 fewer than in 1937 but 82 more than in 1936 and 749 more than in 1935. In 1939 again 215 fewer physicians were added as compared with 1938. In 1940 also there were 165 fewer than the previous year, and likewise fewer than any year except 1937, in which year 545 more were licensed.

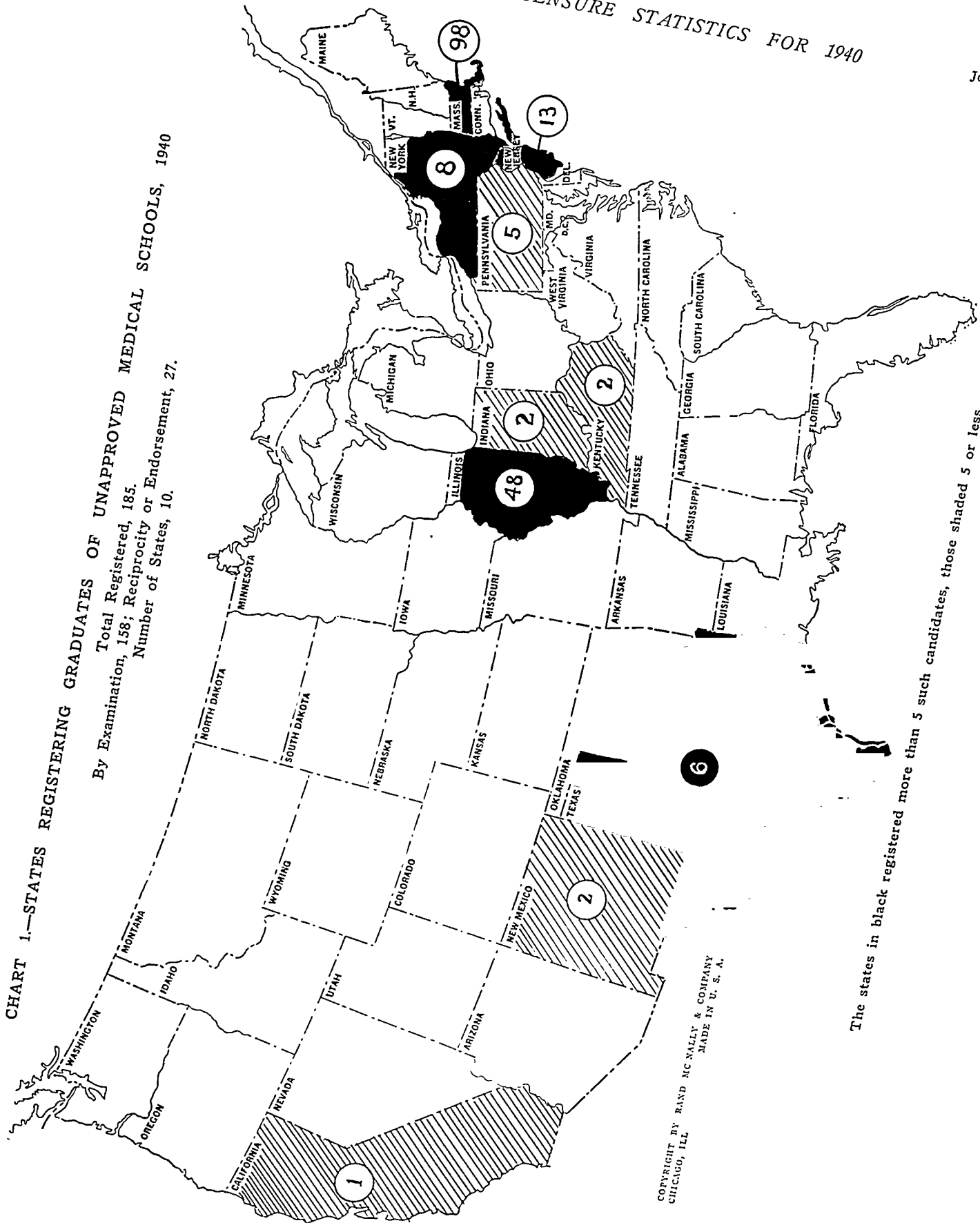
In six years altogether 36,293 physicians received original licenses, 33,229 after written examination and 3,064 by endorsement of credentials. In this same period 54,676 licenses were issued, 37,843 by examination and 16,833 by endorsement of credentials. Of these, 18,383 were previously licensed and 36,293 were not.

Increases in the physician population by means of first licenses are shown in table 17 and arranged in nine geographic divisions; namely, the New England, Middle Atlantic, East and West North Central, South Atlantic, East and West South Central, Mountain and Pacific States and Hawaii and Puerto Rico. The greatest number, 1,648, were added in the Middle Atlantic states. The East North Central group had a total of 1,228, the South Atlantic 627, the West North Central states 579, the New England group 484, the West South Central 430, the Pacific group 420, the East South Central 329 and the Mountain states 116. Seven were added in Hawaii and 11 in Puerto Rico.

MEDICAL LICENSURE STATISTICS FOR 1940

JOUR. A. M. A.
MAY 3, 1941

CHART 1.—STATES REGISTERING GRADUATES OF UNAPPROVED MEDICAL SCHOOLS, 1940
 By Examination, 185.
 Total Registered, 158; Reciprocity or Endorsement, 27.
 Number of States, 10.



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The states in black registered more than 5 such candidates, those shaded 5 or less.

In table 18 data pertaining to those securing their first medical licenses are arranged by school of graduation; the same as those examined are listed in table 2, existing approved medical schools in the United States, extinct medical schools, foreign faculties of medicine and unapproved schools.

TABLE 20.—Internship Required by Medical Schools

University of California Medical School
College of Medical Evangelists
University of Southern California School of Medicine
Stanford University School of Medicine
Loyola University School of Medicine
Northwestern University Medical School
University of Illinois College of Medicine
Wayne University College of Medicine
University of Minnesota Medical School
Duke University School of Medicine*
University of Cincinnati College of Medicine
Marquette University School of Medicine
University of Manitoba Faculty of Medicine
Dalhousie University Faculty of Medicine
McGill University Faculty of Medicine†
University of Montreal Faculty of Medicine

* Requires a two year internship.

† M.D. degree conferred on completion of four sessions of thirty-six teaching weeks. Not eligible for licensure until completion of internship.

The 5,879 physicians representing additions to the medical profession included graduates from sixty-seven approved medical schools of the United States, nine approved schools in Canada and others. The greatest number from any one school were 159 from Northwestern University Medical School. The next greatest, 154 from the University of Illinois College of Medicine. Fourteen schools contributed 100 or more. Of the United States schools, Albany Medical College had the fewest, 7, while only one represented Laval

TABLE 21.—Internship Required by Medical Licensing Boards of All Candidates*

Alabama	Michigan	Rhode Island
Alaska	New Hampshire	South Dakota
Delaware	New Jersey	Utah
District of Columbia	North Dakota	Vermont
Hawaii	Oklahoma	Washington
Idaho	Oregon	West Virginia
Illinois	Pennsylvania	Wisconsin
Iowa	Puerto Rico	Wyoming
Louisiana		

* In addition some states require the internship of graduates of medical faculties abroad and reciprocity or endorsement applicants. See tables 12 and 27.

University Faculty of Medicine and 2, the University of Alberta Faculty of Medicine. McGill University Faculty of Medicine added 43 of its graduates to the physician population of the United States. From the United States schools there were 4,220 graduates added to the profession by examination and 425 by reciprocity or endorsement of credentials, a total of 4,645. From the Canadian schools 105 were added, by examination 98 and without 7. There were 868 graduates of foreign faculties of medicine, 9 from extinct schools and 253 from unapproved schools. Altogether there were 5,428 graduates of all schools licensed by examination and 451 licensed by reciprocity and endorsement, a total of 5,879.

STATE REQUIREMENTS OF PRELIMINARY TRAINING

The minimum requirement for admission to approved medical schools since 1918 has been two years of college training and since 1938 three years has been recommended. With but five exceptions, namely California, Connecticut, Massachusetts, Missouri and Nebraska, the state licensing boards also exact the two year requirement. Although their statutes do not

conform with the two year college prerequisite, these states, with the exception of Massachusetts, do not license other than graduates of approved schools. Table 19 records the preliminary training required by each state medical licensing board. Alaska, Hawaii and Puerto Rico likewise require two years of preliminary training.

REQUIRED HOSPITAL INTERNSHIPS

In tables 20 and 21 are listed the medical schools and state licensing boards now requiring internships for the M.D. degree and state licensure respectively.

Twenty-one states, the District of Columbia, Alaska, Hawaii and Puerto Rico require that all applicants for licensure possess a hospital internship. The first state

TABLE 22.—Candidates Examined, 1936-1940

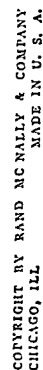
	1936		1937		1938		1939		1940		Totals for 5 Years		
	P	F	P	F	P	F	P	F	P	F	P	F	% F
Alabama.....	23	4	26	1	29	0	14	0	26	0	118	5	4.1
Arizona.....	26	9	14	2	15	0	11	1	20	1	86	13	13.1
Arkansas.....	46	0	48	0	72	0	63	0	58	0	292	0	0.0
California.....	369	18	349	20	402	15	383	19	396	29	1,890	101	5.1
Colorado.....	79	1	76	3	78	3	69	3	75	4	377	14	3.6
Connecticut.....	76	30	80	21	73	24	63	47	53	33	335	155	31.6
Delaware.....	17	0	14	2	14	0	11	2	15	0	71	4	5.4
Dist. Columbia.....	32	1	41	0	33	0	54	0	49	2	209	3	1.4
Florida.....	154	44	164	38	153	41	172	27	131	6	774	156	16.8
Georgia.....	89	0	83	0	72	0	90	0	88	0	422	0	0.0
Idaho.....	13	0	20	0	28	0	24	8	40	1	125	9	6.7
Illinois.....	471	6	488	5	490	12	523	18	542	24	2,514	65	2.5
Indiana.....	118	0	123	2	108	1	108	0	118	0	575	3	0.5
Iowa.....	101	0	88	0	94	11	104	2	67	5	456	18	3.8
Kansas.....	96	0	82	0	93	1	85	0	92	0	448	1	0.2
Kentucky.....	84	0	81	1	81	1	88	0	77	0	411	2	0.5
Louisiana.....	133	1	174	1	184	2	153	0	154	1	798	5	0.6
Maine.....	51	0	58	2	30	7	42	6	32	14	224	29	11.5
Maryland.....	202	24	209	27	227	38	187	16	175	18	1,000	133	11.7
Massachusetts.....	271	230	502	218	207	220	277	257	338	298	1,335	1,232	46.9
Michigan.....	238	0	211	1	226	1	217	0	247	0	1,139	2	0.2
Minnesota.....	191	1	219	0	219	2	217	1	196	0	1,042	4	0.4
Mississippi.....	22	4	22	2	31	1	21	0	42	0	138	7	4.8
Missouri.....	202	3	168	12	174	3	111	0	179	0	934	18	1.9
Montana.....	15	0	4	1	11	0	11	0	9	0	50	1	2.0
Nebraska.....	75	0	79	0	85	0	78	0	84	0	401	0	0.0
Nevada.....	0	0	0	5	0	4	0	3	1	17	1	5.6	
New Hampshire.....	24	0	18	0	17	0	14	2	9	1	82	3	3.5
New Jersey.....	168	6	250	33	281	53	237	109	179	36	1,115	237	17.5
New Mexico.....	3	0	2	0	2	0	2	0	0	1	9	1	10.0
New York.....	932	249	1,072	291	1,078	372	1,024	695	956	1093	5,662	2,700	34.8
North Carolina.....	64	0	83	0	85	0	57	0	65	0	334	0	0.0
North Dakota.....	14	0	12	0	15	2	17	1	24	0	83	3	3.5
Ohio.....	312	2	247	5	342	11	369	15	305	16	1,675	49	2.8
Oklahoma.....	70	0	49	0	46	0	43	0	47	0	255	0	0.0
Oregon.....	48	0	58	0	53	0	26	0	33	0	218	0	0.0
Pennsylvania.....	541	1	529	4	512	9	548	10	478	24	2,608	48	1.8
Rhode Island.....	22	7	38	7	26	1	25	0	19	0	130	15	10.3
South Carolina.....	32	0	46	1	39	1	48	0	41	0	206	2	1.0
South Dakota.....	15	0	17	2	8	0	15	0	7	0	62	2	3.1
Tennessee.....	178	1	208	1	179	3	193	0	188	1	946	6	0.6
Texas.....	178	19	181	19	200	26	208	15	209	25	976	101	9.6
Utah.....	24	0	10	0	12	0	17	0	9	0	71	0	0.0
Vermont.....	38	0	26	0	26	1	17	0	21	1	128	2	1.5
Virginia.....	110	0	150	2	127	0	113	1	142	1	642	4	0.6
Washington.....	58	1	57	0	72	0	59	1	48	0	294	2	0.7
West Virginia.....	59	0	60	1	65	1	33	0	38	0	255	2	0.8
Wisconsin.....	112	1	118	0	114	0	111	0	113	0	568	1	0.2
Wyoming.....	1	0	2	1	7	0	8	1	16	1	31	3	8.1
U. S. Terr. & Possessions.....	21	12	40	4	34	9	30	4	29	2	154	31	16.8
Total Examined.....	6,915		7,732		7,455		7,750		7,921		37,373		
Passed.....	6,281		6,692		6,583		6,459		6,282		32,177		
Failed.....	634		730		872		1,291		1,639		5,196		
Percentage Failed.....	10.0		7.0		11.7		16.3		20.7		13.9		

P = Passed; F = Failed.

exacting this requirement was Pennsylvania in 1914. In addition, other states require graduates of medical faculties abroad and reciprocity or endorsement applicants to have completed an internship.

Twelve schools in the United States and three in Canada require an internship for graduation. Several medical schools will accept research or other clinical work in lieu of hospital service. The University of Minnesota Medical School in 1915 was the first school to adopt the internship as a basis for the M.D. degree. Louisiana State University Medical School, which since the medical school was organized in 1931 has offered

Total Registered, 118.
By Examination, 114; Reciprocity or Endorsement, 4.
Number of States, 9.



The states in black registered more than 5 such candidates, those shaded 5 or less.

a five year course including an internship, discontinued the hospital year beginning with the class of 1940. The fifth year was also discontinued by McGill University Faculty of Medicine as a result of the reorganization of its medical curriculum affecting the freshman class

TABLE 23.—Registration, 1904-1940

Year	All Candidates Examined			Reciprocity or Endorsement	Total Registered
	Examined	Passed	Percentage Failed		
1904.....	7,056	5,693	19.3	1,004	6,697
1905.....	7,178	5,688	20.8	294	6,982
1906.....	8,040	6,373	20.7	1,502	7,875
1907.....	7,279	5,731	21.3	1,427	7,158
1908.....	7,773	6,089	21.7	1,284	7,373
1909.....	7,295	5,865	19.6	1,281	7,246
1910.....	7,010	5,718	18.4	1,610	7,558
1911.....	6,964	5,582	19.8	1,243	6,825
1912.....	6,880	5,467	20.5	1,272	6,739
1913.....	6,433	5,233	18.6	1,292	6,545
1914.....	5,579	4,379	21.5	1,439	5,818
1915.....	5,394	4,507	15.5	1,399	5,906
1916.....	4,878	4,151	14.9	1,353	5,504
1917.....	4,753	4,084	14.1	1,360	5,444
1918.....	3,666	3,183	13.2	1,047	4,230
1919.....	4,750	4,074	14.2	2,545	6,619
1920.....	4,796	4,062	15.3	2,558	6,620
1921.....	4,825	4,228	12.4	2,186	6,414
1922.....	4,031	3,539	12.2	2,073	5,612
1923.....	4,726	4,027	14.8	2,403	6,430
1924.....	5,390	4,754	11.8	1,919	6,673
1925.....	5,999	5,447	9.2	1,600	7,307
1926.....	5,767	5,311	7.9	1,954	7,265
1927.....	5,384	4,997	7.2	2,174	7,171
1928.....	5,454	5,086	6.7	2,228	7,314
1929.....	5,627	5,280	6.2	2,420	7,700
1930.....	5,563	5,247	5.7	2,366	7,613
1931.....	5,609	5,261	6.2	2,211	7,474
1932.....	5,666	5,238	7.6	1,884	7,122
1933.....	5,670	5,241	7.6	1,989	7,230
1934.....	6,141	5,624	8.4	2,160	7,785
1935.....	6,436	5,852	9.1	2,105	8,047
1936.....	6,915	6,221	10.0	2,774	8,995
1937.....	7,331	6,601	10.0	3,202	9,803
1938.....	7,437	6,583	11.7	2,956	9,541
1939.....	7,750	6,459	16.3	2,872	9,361
1940.....	7,921	6,282	20.7	2,838	9,120

TABLE 24.—Graduates of Approved Schools and Others Registered, 1922-1940

Year	Graduates of Approved Schools		Others		Totals
	Number	Per Cent	Number	Per Cent	
1922.....	4,519	80.5	1,093	19.5	5,612
1923.....	5,196	80.8	1,234	19.2	6,430
1924.....	5,086	83.2	987	14.8	6,073
1925.....	6,313	86.4	994	13.6	7,307
1926.....	6,441	88.7	824	11.3	7,265
1927.....	6,410	89.4	761	10.6	7,171
1928.....	6,585	90.1	729	9.9	7,314
1929.....	7,003	91.0	602	9.0	7,700
1930.....	7,011	92.1	602	7.9	7,613
1931.....	6,932	92.8	542	7.2	7,474
1932.....	6,675	93.7	447	6.3	7,122
1933.....	6,774	93.7	456	6.3	7,230
1934.....	7,171	92.1	614	7.9	7,785
1935.....	7,962	91.5	685	8.5	8,047
1936.....	7,982	88.2	1,063	11.8	8,995
1937.....	8,388	85.6	1,415	14.4	9,803
1938.....	8,313	87.1	1,228	12.9	9,541
1939.....	8,067	86.2	1,294	13.8	9,361
1940.....	7,753	85.0	1,367	15.0	9,120
Totals.....	130,591	88.5	17,032	11.5	147,563

of 1936-1937. The M.D. degree is conferred on completion of four sessions of thirty-six teaching weeks, but the holders of these degrees are not eligible to sit for the licensing examination until the completion of a hospital internship. The M.D. degree is likewise conferred by Duke University School of Medicine after completion of the senior year, but all graduates are required to spend at least two years in a hospital or laboratory after graduation.

Some of the medical schools and licensing boards have their own list of hospitals acceptable for intern training, but the approved list of the Council on Medical Education and Hospitals is generally in use.

CANDIDATES EXAMINED, 1936-1940

The number of candidates examined in the various states, territories and possessions in the five year period from 1936 to 1940 inclusive, showing those who passed and failed, are given in table 22.

In five years, 37,373 candidates were tested of whom 32,177 were successful in their examination. In this period, 5,062 were examined in New York and passed, 2,608 in Pennsylvania, 2,514 in Illinois, 1,899 in California, 1,675 in Ohio and 1,395 in Massachusetts. More than 1,000 were successful also in Michigan, Minnesota and New Jersey. In five years between 500 and 1,000 were examined and passed in each of eight states. Thirty-one states licensed fewer than 500 and ten less than 100. The smallest number, 9, passed the examinations in New Mexico.

The percentage of candidates who failed in the examinations in the past five years is given in the last

TABLE 25.—Graduates of Unapproved Medical Schools Registered, 1935-1940

	Examination						Reciprocity and Endorsement						Total
	1935	1936	1937	1938	1939	1940	1935	1936	1937	1938	1939	1940	
Arizona.....	0	0	2	1	2	0	0	0	0	0	0	0	5
Arkansas.....	0	0	0	1	0	0	0	0	0	1	0	0	2
California.....	1	0	0	0	0	1	2	0	0	0	1	0	5
Florida.....	1	1	2	2	1	0	0	0	0	0	0	0	7
Illinois.....	67	84	82	60	51	48	0	0	0	0	0	0	392
Indiana.....	1	0	0	0	0	0	0	0	0	3	1	2	7
Kentucky.....	1	0	0	0	0	0	2	2	1	2	2	0	10
Massachusetts..	26	77	97	58	79	98	0	0	0	0	0	0	435
Missouri.....	0	0	0	0	0	0	2	0	0	1	0	0	3
Nebraska.....	0	0	0	0	0	0	0	0	1	0	0	0	1
New Jersey.....	0	5	1	7	0	0	1	2	4	4	13	37	65
New Mexico.....	0	1	0	1	0	0	2	1	0	2	0	2	9
New York.....	0	0	0	0	0	0	13	14	8	12	8	5	53
North Carolina..	0	1	2	0	0	0	0	0	0	0	0	0	3
North Dakota....	0	0	0	0	0	0	1	0	0	0	0	0	1
Ohio.....	16	31	23	32	36	0	0	0	0	0	0	0	128
Oklahoma.....	1	0	0	0	0	0	0	0	0	0	0	0	1
Pennsylvania....	0	0	1	4	1	5	0	0	0	0	0	0	11
Rhode Island....	1	0	0	0	0	0	0	0	0	0	0	0	1
South Dakota....	1	0	0	0	0	0	0	0	0	0	0	0	1
Texas.....	0	0	0	1	4	6	0	0	3	0	0	0	11
Virginia.....	0	0	1	0	1	0	0	0	0	0	0	0	2
Wisconsin.....	0	0	0	0	0	0	0	1	0	0	0	0	1
Alaska, Hawaii and Puerto Rico	0	1	1	0	0	1	0	1	0	0	0	0	4
Totals.....	116	201	212	167	175	159	7	19	22	20	20	27	1,115

TABLE 26.—Graduates of Schools of Osteopathy Registered by Medical Examining Boards, 1935-1940

	Examination						Reciprocity and Endorsement						Total
	1935	1936	1937	1938	1939	1940	1935	1936	1937	1938	1939	1940	
Colorado.....	13	16	19	18	22	15	0	0	0	0	0	0	103
Connecticut.....	0	1	1	0	1	0	0	0	0	0	0	0	3
Dist. Columbia..	0	0	0	1	0	1	0	0	0	0	0	0	2
Massachusetts..	5	12	18	10	10	27	0	0	0	0	0	0	82
New Hampshire..	1	1	4	2	0	2	0	0	2	1	0	2	15
New Jersey.....	2	0	52	46	45	47	0	0	0	0	0	0	192
Oregon.....	0	1	1	1	1	0	0	2	0	1	1	1	9
Texas.....	7	11	17	22	19	20	13	24	72	57	17	1	270
Virginia.....	4	4	2	1	0	0	1	0	0	0	0	0	12
Wisconsin.....	0	3	1	0	0	1	0	5	2	3	0	0	15
Wyoming.....	0	0	0	0	0	1	2	4	4	1	2	0	11
Totals.....	32	49	115	101	98	114	16	45	80	43	20	4	717

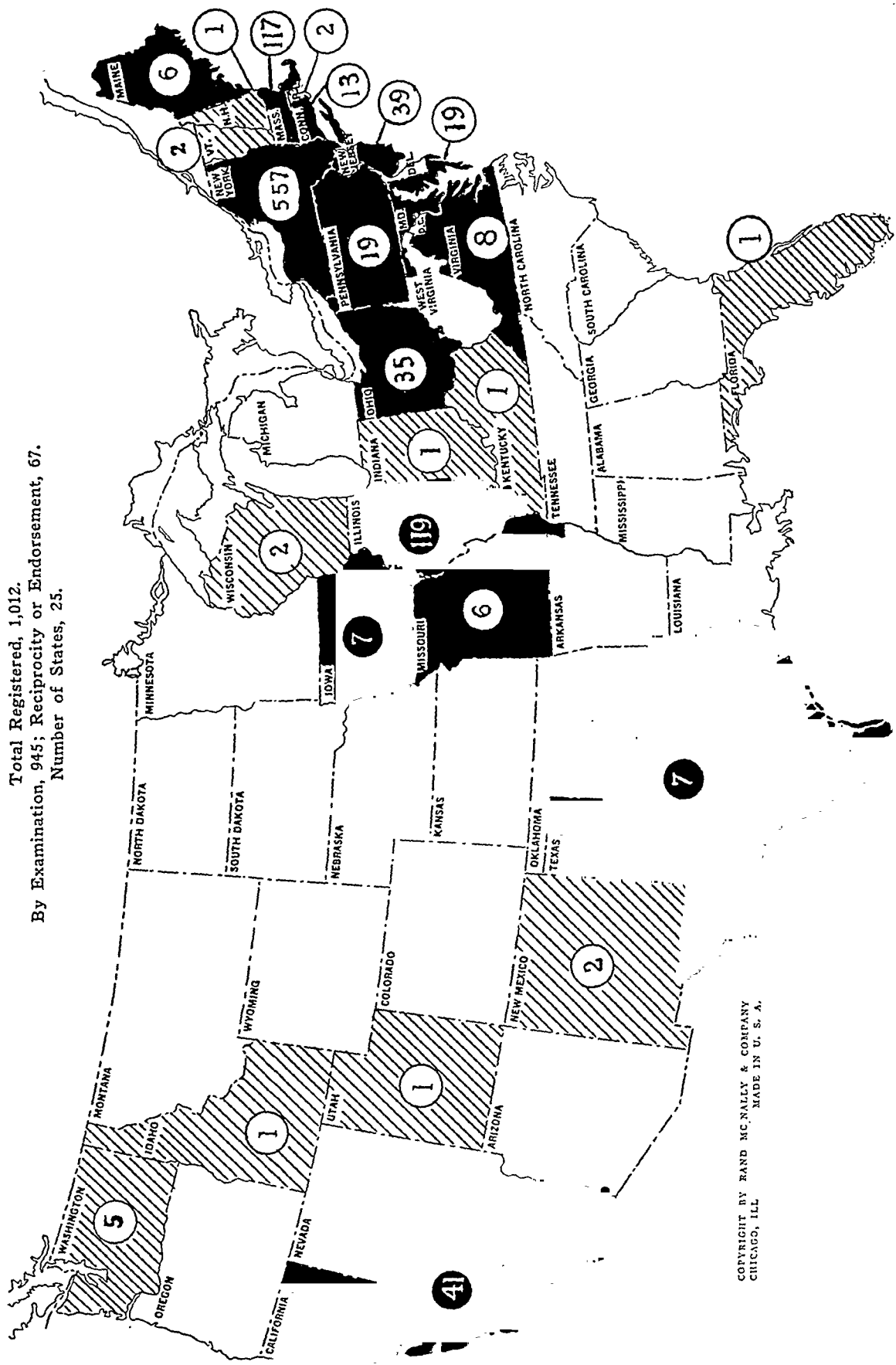
column of this table. The percentage of failures in all states has increased from 10 per cent in 1936 to 13.9 per cent. In five years 5,196 failed to pass examinations for medical licensure of 37,373 examined. The greatest percentage of failures occurred in Massachusetts, 46.9 per cent. The high percentage in this state is due to the fact that by law the licensing board is required to admit to its examination the graduates of

CHART 3.—STATES REGISTERING GRADUATES OF MEDICAL FACULTIES ABROAD, 1940

Total Registered, 1,012.

By Examination, 945; Reciprocity or Endorsement, 67.

Number of States, 25.

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The states in black registered more than 5 such candidates, those shaded 5 or less.

unapproved schools, many of whom repeatedly fail. New York had a failure percentage of 34.8 per cent. The high percentage in this state is occasioned by the fact that New York admits a great many graduates of foreign medical faculties to the licensing examination. The third highest percentage of failures was in Connecticut with 31.6. The majority of failures in this state also were graduates of foreign medical faculties. In Florida, 16.8 per cent failed. Florida has no reciprocal relations with any state, all applicants being required to take the licensing examination. Graduates of earlier years experience difficulty in passing examinations. On the other hand, Alabama, Colorado, the District of Columbia, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Michigan, Minnesota, Mississippi, Missouri, Montana, New Hampshire, North Dakota, Ohio, South Carolina, South Dakota, Tennessee, Vermont, Virginia, Washington, West Virginia and Wisconsin—twenty-five states—had less than 5 per cent. In thirteen of these states the percentage of failures was less than 1 per cent. In five years seven states—Arkansas, Georgia, Nebraska, North Carolina, Oklahoma, Oregon and Utah—had no failures.

A total of 37,373 were examined in the five years from 1936 to 1940 inclusive, of whom 32,177 passed and 5,196, 13.9 per cent, failed.

These figures represent examinations given and not individuals. A candidate who fails more than once in a given year is counted as only one failure, but should he fail in one of the succeeding years in another state he is counted in that year also. Likewise, if a candidate fails and later passes, whether in the same or in a later year, he is counted as failed and passed. It seems likely that with 5,196 failures who apply for reexaminations and physicians who apply for licensure in more than one state, approximately 33,000 individuals were examined. This figure gives a fair estimate of the number of physicians added to the profession in five years by means of licensure after examination. On page 2036 will be found a table giving exact figures for the period 1935 to 1940 inclusive.

REGISTRATION, 1904-1940

A study of totals and percentages for thirty-seven years, from 1904 to 1940 inclusive, is presented in table 23. This tabulation includes figures for each year regarding the number examined and passed, the percentage failed, registered by reciprocity or endorsement and the total registered. There was no marked increase or decrease in the total number of candidates registered from 1904 to 1933, but in 1935 there was a very noticeable increase and also during the following three years, while since 1938 the number registered has decreased. However, the number licensed without examination since 1904 has been increasing owing to the almost universal recognition of the certificate of the National Board of Medical Examiners and the wider use of reciprocity or endorsement privileges. The decrease in the number registered in 1918 was due to the sudden withdrawal of physicians and recent graduates from civilian life. Again in 1922 there was a notable reduction, this figure resulting from the smaller number that began the study of medicine in 1918. The great increases during the years 1935 to 1938 inclusive and many also in succeeding years represent, chiefly, graduates of European medical schools.

The number who passed in 1940 was 207 fewer than in 1939 and also fewer than the two preceding years

(CONTINUED ON PAGE 2048)

TABLE 27.—Requirements of Candidates for Medical Licensure on the Basis of Credentials Obtained in Countries Other Than the United States and Canada

	Admitted to Examination	Admitted by Enforcement of State License	Citizenship	Basic Science Certificate	Internship in Hospital in United States	Further Medical Training	Examination Fee, Dollars	Other Requirements
Alabama.....	+	+	+	..	+	..	10	1
Arizona.....	+	+	+	..	+
Arkansas (regular board)...	+	+	+	..	+
California.....	+	+	+	..	+
Colorado.....	+	+	1st P	+	..	..	25	3
Connecticut (regular board)...	+	+	1st P	+	..	..	25	6
Delaware (regular board)...	+	+	+	+	25	..
District of Columbia.....	+	+	+	+	25	10
Florida.....	+	+	+	+	25	..
Georgia.....	+	+	+	+	20	..
Idaho.....	+	+	+	+	25	..
Illinois.....	+	+	1st P	+	..	..	10	8
Indiana.....	+	+	+	+	25	..
Iowa.....	+	+	+	+	25	..
Kansas.....	+	+	+	+	25	11
Kentucky.....	+	+	+	+	25	..
Louisiana.....	+	+	+	+	20	..
Maine.....	+	+	1st P	+	..	..	27	11
Maryland (regular board)...	+	+	1st P	+	..	..	25	10
Massachusetts.....	+	+	1st P	+	..	..	25	..
Michigan.....	+	+	+	+	21	..
Minnesota.....	+	+	+	+
Mississippi.....	+	+	+	+	10.25	..
Missouri.....	+	+	+	+	15	..
Montana.....	+	+	+	+	50	..
Nebraska.....	+	+	+	+	25	..
Nevada.....	+	+	+	+
New Hampshire.....	+	+	+	+	20	15
New Jersey.....	+	+	+	+	25	..
New Mexico.....	+	+	+	+
New York.....	+	+	1st P	+	..	..	25	..
North Carolina.....	+	+	+	+
North Dakota.....	+	+	+	+	25	11
Ohio.....	+	+	+	+	25	..
Oklahoma.....	+	+	+	+
Oregon.....	+	+	+	+	25	..
Pennsylvania.....	+	+	1st P	+	..	..	25	..
Rhode Island.....	+	+	1st P	+	..	..	20	13
South Carolina.....	+	+	+	+
South Dakota.....	+	+	+	+
Tennessee.....	+	+	+	+
Texas.....	+	+	+	+	25	..
Utah.....	+	+	+	+
Vermont.....	+	+	+	+	20	..
Virginia.....	+	+	+	+	25	..
Washington.....	+	+	1st P	+	..	..	25	..
West Virginia.....	+	+	+	+
Wisconsin.....	+	+	+	+
Wyoming.....	+	+	+	+
Alaska.....	+	+	+	+	25	..
Hawaii.....	+	+	+	+	25	12
Puerto Rico.....	+	+	+	+	25	..

Compilation of data furnished by state examining boards. This information is not guaranteed as there may have been changes of which this office has not been advised. For an authentic statement write directly to the medical board.

Refer to chart of "Reciprocity and Endorsement Policies" for further data.

1. Certificate of National Board of Medical Examiners and licensure in country in which school of graduation is located.

2. Internship or one year in medical school in United States.

3. Certificate of National Board of Medical Examiners.

4. For graduates of last five years; if more than five years \$30.

5. Residence of one year in Delaware.

6. Provided similar privileges are accorded licensees of District of Columbia by licensing agency of the jurisdiction from which the applicant comes.

7. Senior year in class A medical school in United States.

8. 1 after Feb. 21, 1941.

9. nly.

10. six months prior to date of examination.

11. Licensed to practice medicine and surgery in country in which school of graduation is located, otherwise required to complete senior year in approved medical school in United States.

12. Diplomates of National Board of Medical Examiners eligible.

13. License to practice medicine and surgery in the country in which the school of graduation is located.

14. Internship and one year graduate work.

15. Diplomates of the National Board of Medical Examiners exempt from special requirements.

16. Applicants from schools in England and Scotland only.

17. Internship completed in foreign countries after July 1, 1934, not acceptable.

18. Rotating internship in approved hospital in the United States or completion of senior year in class A medical school in the United States.

19. These requirements apply also to graduates of Canadian schools.

20. Graduates from foreign medical colleges accepted if they present also a diploma from an approved medical school in the United States.

21. Examination fee, Lansing and Ann Arbor \$25; Detroit \$25.

In most states all foreign credentials must be filed by the American consul.

TABLE 28.—Physicians Examined on the Basis of Credentials Obtained in Countries Other Than the United States and Canada, 1940

Marginal Number	California	Connecticut	Florida	Idaho	Illinois	Indiana	Iowa	Maine	Maryland	Massachusetts	Missouri	New Jersey	New Mexico	New York	Ohio	Pennsylvania	Rhode Island	Texas	Vermont	Virginia	Washington	Wisconsin	Puerto Rico
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P
1	Universit� Libre de Bruxelles.....									1 0				3 1									
2	Pennsylvania Medical School, Shanghai.....																						
3	Deutsche Universit�t, Prag.....	2 1		2 0					6 5					13 23	3 0	2 0							
4	Moskovskaya Universita, Irkutsk.....							0 1						5 9									
5	Universita Karlova, Praha.....	1 0		1 0					1 0					1 0									
6	Univerzita Komensk�ho, Bratislava.....													1 0									
7	K�benhavn Universitet.....													0 1									
8	Charling Cross Hospital Medical School, London.....											1 0											
9	Licentiate in Medicine, Surgery and Midwifery of the Apothecaries' Society of London.....													0 2									
10	Licentiate of the Royal College of Physicians of London and Member of the Royal College of Surgeons of England.....	1 0							1 0					4 4									
11	Middlesex Hospital Medical School, London.....											1 0		1 0									
12	University of Cambridge.....	1 0												1 0									
13	University of Oxford.....																						
14	Universit� de Tartu.....								0 1														
15	Universit� de Lyon.....													1 2									
16	Universit� de Montpellier.....													1 2									
17	Universit� de Nancy.....													3 1									
18	Universit� de Paris.....	1 0							1 0					5 11		1 0							
19	Universit� de Strasbourg.....													1 2									
20	Albert-Ludwigs-Universit�t, Freiburg.....				1 1			1 0	1 6		0 1			5 21	2 1								
21	Albertus-Universit�t, Konigsberg.....			2 0				3 2		1 1				5 13	0 1								
22	Christian-Albrechts-Universit�t, Kiel.....	1 0												3 4	0 1								
23	Eberhard-Karls-Universit�t, T�bingen.....		0 1					1 0	1 1					1 3									
24	Ernst-Moritz-Arnold-Universit�t, Greifswald.....								0 1		0 1			3 2									
25	Friedrich-Alexanders-Universit�t, Erlangen.....			1 0					0 1					3 2									
26	Friedrich-Wilhelms-Universit�t, Berlin.....	6 0	1 2		9 4	0 0	1 1	0 3	5 9		2 0			50 30	3 2								
27	Georg-August-Universit�t, G�ttingen.....			1 0				0 1		0 1				4 6									
28	Hamburgische Universit�t.....	1 0			2 0				1 0	0 2				7 8									
29	Hessische Ludwigs-Universit�t, Giessen.....								1 0					3 9	0 1								
30	Johann Wolfgang Goethe-Universit�t, Frankfurt-am-Main.....	2 1			2 0			5 1						10 14	0 1								
31	Julius-Maximilians-Universit�t, W�rzburg.....	0 1			2 0				0 1					13 23									
32	Kaiser-Wilhelms-Universit�t, Strassburg.....				2 1				1 0					1 7									
33	Karl-Franzens-Universit�t, Graz.....				1 0									4 5									
34	Leopold-Franzens-Universit�t, Innsbruck.....	1 0						1 0	2					39 40	1 0								
35	Ludwig-Maximilians-Universit�t, M�nchen.....				2 0			1 0	1 8		0 1			19 46	1 0	1 0							
36	Medizinische Akademie D�sseldorf.....	3 1	0 2											3 3									
37	Philippus-Universit�t, Marburg.....								0 2		0 1			0 1									
38	Rheinische Friedrich-Wilhelms-Universit�t, Bonn.....	2 1			1 0			1 1	0					7 12	1 0								
39	Schlesische Friedrich-Wilhelms-Universit�t, Breslau.....	1 0			0 1									16 15									
40	Th�ringische Landesuniversit�t, Jena.....	1 0			1 0			1 1	6 2					2 3									
41	Universit�t Heidelberg.....	1 1	0 3		5 2				0 1	5 3				13 23	5 3								
42	Universit�t K�ln.....				2 0									4 7									
43	Universit�t Leipzig.....		2 1							1 0				7 6									
44	Universit�t Rostock.....							1 0	1 1		1 0			14 11									
45	Universit�t Wien.....	9 1	3 4		40 6			2 1	1 0	0 1				2 6									
46	Verenigten Erbk�nigs-Universit�t, Halle-Wittenberg.....								5 1	40 37		5 4		171 232	33 2	4 1							
					1 0					1 1				5 5									
Totals	Examined—Passed.....	5 4	1 0	0 0	1 1	0 0	1 1	0 0	1 1	0 0	1 1	0 0	1 1	0 0	1 1	0 0	1 1	0 0	1 1	0 0	1 1	0 0	1 1
	Examined—Failed.....	1 1	0 0	0 0	1 1	0 0	1 1	0 0	1 1	0 0	1 1	0 0	1 1	0 0	1 1	0 0	1 1	0 0	1 1	0 0	1 1	0 0	1 1
	Percentage of Failures.....	20.0	0.0	0.0	10.0	0.0	10.0	0.0	10.0	0.0	10.0	0.0	10.0	0.0	10.0	0.0	10.0	0.0	10.0	0.0	10.0	0.0	10.0
	No. of Boards Examined by.....	2 1							6 5					13 23	3 0	2 0							
	Marginal Number.....	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22

17	National University of Athens.....	3	0	3	100.0	2	47
GREECE							
HUNGARY							
18	Magyar Királyi Erzsébet Tudományegyetem, Pécs.....	22	0	13	69.1	6	48
19	Magyar Királyi Ferenc József Tudományegyetem, Szeged.....	27	2	16	71.4	3	49
20	Magyar Királyi Pázmány Péter Tudományegyetem, Budapest.....	42	15	21	57.1	7	60
51	Magyar Királyi Tisza-Isztván Tudományegyetem, Debrecen.....	1	0	1	100.0	1	51
IRELAND							
52	Licentiate of the Apothecaries' Hall, Dublin.....	1	0	1	100.0	1	52
53	National University of Ireland.....	1	0	1	100.0	1	53
54	University of Dublin.....	5	3	2	40.0	1	54
ITALY							
55	Regia Università di "Pontio Muscolini" di Bari.....	3	0	3	100.0	1	55
56	Regia Università di Bologna.....	42	12	30	71.4	7	50
57	Regia Università di Catania.....	1	1	0	0.0	1	57
58	Regia Università di Firenze.....	8	4	4	50.0	2	58
59	Regia Università di Genova.....	8	2	6	75.0	2	59
60	Regia Università di Messina.....	3	0	3	100.0	3	60
61	Regia Università di Milano.....	12	7	5	41.7	3	61
62	Regia Università di Modena.....	5	0	5	100.0	3	62
63	Regia Università di Napoli.....	41	11	30	73.2	8	63
64	Regia Università di Padova.....	6	3	3	50.0	5	64
65	Regia Università di Palermo.....	5	0	5	100.0	3	65
66	Regia Università di Pavia.....	5	0	5	100.0	2	66
67	Regia Università di Perugia.....	8	3	5	62.5	4	67
68	Regia Università di Pisa.....	12	4	8	66.7	3	68
69	Regia Università di Roma.....	48	14	34	70.8	6	69
70	Regia Università di Siena.....	7	2	5	71.4	3	70
71	Regia Università di Torino.....	9	4	5	55.6	3	71
JAPAN							
72	Japan Medical College, Tokyo.....	1	0	1	100.0	1	72
LATVIA							
73	Latvijas Universitāte, Riga.....	1	0	1	100.0	1	73
LEBANON							
74	American University of Beirut.....	3	2	1	33.3	3	74
75	Université de St. Joseph, Beyrouth.....	1	0	1	100.0	1	75
MEXICO							
76	Escuela Libre de Homeopatía, Puebla.....	1	0	1	100.0	1	76
77	Universidad Nacional, Mexico, D. F.....	4	2	2	50.0	2	77
NETHERLANDS							
78	Rijks-Universiteit te Groningen.....	3	2	1	33.3	2	78
79	Universiteit van Amsterdam.....	3	2	1	33.3	2	79
NORWAY							
80	Kongelige Frederiks Universitet, Oslo.....	1	1	0	0.0	1	80
POLAND							
81	Uniwersytet Jagielloński, Cracow.....	1	0	1	100.0	1	81
82	Uniwersytet Jagielloński, Katowice.....	2	1	1	50.0	2	82
83	Uniwersytet Jagielloński, Warszawa.....	4	1	3	75.0	2	83
84	Uniwersytet Stefana Batorego, Wilno.....	6	4	2	33.3	2	84
PORTUGAL							
85	Universidade de Lisboa.....	1	0	1	100.0	1	85
SCOTLAND							
86	Anderson College of Medicine, Glasgow.....	1	0	1	100.0	1	86
87	Licentiate of the Royal College of Physicians, of the Royal College of Surgeons, Edinburgh, and of the Royal Faculty of Physicians and Surgeons, Glasgow.....	71	51	20	28.2	5	87
88	School of Medicine of the Royal Colleges, Edinburgh.....	1	1	0	0.0	1	88
89	St. Mungo's College Medical School, Glasgow.....	1	1	0	0.0	1	89
90	University of Edinburgh.....	2	2	0	0.0	2	90
91	University of Glasgow.....	2	1	1	50.0	2	91
92	University of St. Andrews.....	4	2	2	50.0	1	92
SPAIN							
93	Universidad Central de España, Madrid.....	2	1	1	50.0	1	93
SWEDEN							
94	Karolinska Mediko-Kirurgiska Institutet, Stockholm.....	1	0	1	100.0	1	94
SWITZERLAND							
95	Universität Basel.....	36	10	17	47.2	7	95
96	Universität Bern.....	52	26	26	50.0	9	96
97	Universität Zürich.....	19	9	10	52.6	5	97
98	Université de Genève.....	14	5	9	61.3	7	98
99	Université de Lausanne.....	31	9	22	71.0	5	99

TABLE 28.—Physicians Examined on the Basis of Credentials Obtained in Countries Other Than the United States and Canada, 1940—Continued

Marginal Number	California	Connecticut	Florida	Idaho	Illinois	Indiana	Iowa	Maine	Maryland	Massachusetts	Missouri	New Jersey	New Mexico	New York	Ohio	Pennsylvania	Rhode Island	Texas	Vermont	Virginia	Washington	Wisconsin	Puerto Rico	Totals	Examined—Passed	Examined—Failed	Percentage of Failures	No. of Boards Examined by	Marginal Number	
1	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	1	0	1	100.0	1	100
2	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	0	1	100.0	1	100	
3	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	0	1	100.0	1	101	
4	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	0	1	100.0	1	101	
5	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	0	1	100.0	1	102	
6	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	0	1	100.0	1	102	
7	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	0	1	100.0	1	103	
8	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	0	1	100.0	1	103	
9	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	0	1	100.0	1	104	
10	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	0	1	100.0	1	104	
11	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	0	1	100.0	1	105	
12	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	0	1	100.0	1	105	
13	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	0	1	100.0	1	106	
14	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	0	1	100.0	1	106	
15	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	0	1	100.0	1	106	
16	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	0	1	100.0	1	106	
17	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	0	1	100.0	1	106	
18	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	0	1	100.0	1	106	
19	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	0	1	100.0	1	106	
20	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	0	1	100.0	1	106	
21	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	0	1	100.0	1	106	
22	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	0	1	100.0	1	106	
23	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	0	1	100.0	1	106	
24	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	0	1	100.0	1	106	
25	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	0	1	100.0	1	106	
26	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	0	1	100.0	1	106	
27	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	0	1	100.0	1	106	
28	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	0	1	100.0	1	106	
29	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	0	1	100.0	1	106	
30	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	0	1	100.0	1	106	
31	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	0	1	100.0	1	106	
32	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	0	1	100.0	1	106	
33	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	0	1	100.0	1	106	
34	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	0	1	100.0	1	106	
35	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	0	1	100.0	1	106	
36	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	0	1	100.0	1	106	
37	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	0	1	100.0	1	106	
38	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	0	1	100.0	1	106	
39	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	0	1	100.0	1	106	
40	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	0	1	100.0	1	106	
41	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	0	1	100.0	1	106	
42	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	0	1	100.0	1	106	
43	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	0	1	100.0	1	106	
44	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	0	1	100.0	1	106	
45	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	0	1	100.0	1	106	
46	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	0	1	100.0	1	106	
47	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	0	1	100.0	1	106	
48	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	0	1	100.0	1	106	
49	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	0	1	100.0	1	106	
50	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	0	1	100.0	1	106	
51	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	0	1	100.0	1	106	
52	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	0	1	100.0	1	106	
53	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	0	1	100.0	1	106	
54	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	0	1	100.0	1	106	
55	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	0	1	100.0	1	106	
56	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	0	1	100.0	1	106	
57	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	0	1	100.0	1	106	
58	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	0	1	100.0	1	106	
59	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	0	1	100.0	1	106	
60	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	0	1	100.0	1	106	
61	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	0	1	100.0	1	106	
62	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	0	1	100.0	1	106	
63	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	0	1	100.0	1	106	
64	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	0	1	100.0	1	106	
65	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	0	1	100.0	1	106	
66	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	0	1	100.0	1	106	
67	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	0	1	100.0	1	106	
68	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	0	1	100.0	1	106	
69	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	0	1	100.0	1	106	
70	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	0	1	100.0	1	106	
71	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	0	1	100.0	1	106	
72	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	0	1	100.0	1	106	
73	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	0	1	100.			

but 61 more than in 1936 and 589 more than in 1904. The number registered without examination, 2,838, was 34 less than in 1939. Contrasting these figures with those for 1904 will show the greater use being made of this system of licensure. By both methods, examination and reciprocity or endorsement, 9,120 were registered, 241 less than in 1939. The number so registered in 1937, 9,803, represented the largest number of candidates registered in thirty-seven years. Of those examined in 1940, 20.7 per cent failed, as compared with the same percentage in 1906. At that time the high percentage of failures was due to the inadequate training provided by the proprietary schools in existence at that time. The improvement in the quality of training provided by the medical schools of the United States is evidenced by the lower failure percentages in succeeding years. During the last five years at least a great many of the failures represent, in addition to the graduates of unapproved schools, also those who present credentials from faculties of medicine abroad.

While these figures represent those registered in the years given, they do not in all states represent the number licensed in a given year. Licenses are withheld in many states, as indicated in the text describing table 1.

GRADUATES OF APPROVED SCHOOLS AND OTHERS REGISTERED, 1922-1940

The educational fitness of the individuals registered in nineteen years, 1922-1940, is shown in table 24. In the computation of these figures all schools rated as class A and B by the Council on Medical Education and Hospitals since 1907 are classified as approved. In the column "Others" are included graduates of institutions prior to 1907, of foreign faculties of medicine, class C graduates, osteopaths and graduates of schools that have been refused recognition. In 1928 the classification A, B and C by the Council was discontinued and medical schools have since been considered either approved or unapproved.

Of the 9,120 registered by all methods in 1940, 7,753, or 85 per cent, graduated from approved medical schools, and there were 1,367, 15 per cent, other practitioners registered.

The number of graduates of approved schools in the period shown has always been in the bracket above 4,000, while in the other groups it was until 1936 below 700.

Of the 9,120 graduates registered in 1940, 6,282 were registered after examination and 2,838 by reciprocity or endorsement of credentials. Among those examined there were 5,056 graduates of approved medical schools in the United States and Canada, 274 graduates of unapproved institutions and 952 others. Likewise among those registered by endorsement there were 2,697 graduates of approved medical schools in the United States and Canada, 41 from unapproved schools and 100 others. New York registered 722 graduates of approved schools of a total of 1,290. This state licensed the largest number with foreign credentials. Only approved graduates were registered in Alabama, Arizona, Arkansas, Delaware, Minnesota, Montana, Nebraska, North Dakota, South Carolina and South Dakota.

GRADUATES OF UNAPPROVED MEDICAL SCHOOLS REGISTERED, 1935-1940

Data regarding the number of graduates of those institutions which do not meet the standards for approval outlined by the House of Delegates who were

registered as medical licentiates with or without examination from 1935 to 1940 inclusive are recorded in table 25.

Ten states and Puerto Rico registered 186 such graduates in 1940, 159 by examination and 27 by reciprocity or endorsement. One was so registered in California and 2 each in Indiana, Kentucky and New Mexico. Massachusetts licensed the greatest number, 98, followed by Illinois with 48, New Jersey 13, New York 8, Texas 6 and Pennsylvania 5.

In the six year period shown, 1,145 graduates of unapproved institutions secured the right to practice medicine and surgery, 1,030 by examination and 115 by reciprocity or endorsement. The number so registered in 1940 was 9 fewer than in 1939.

Chart 1 on page 2040 indicates by shaded lines those states registering fewer than 6 graduates of unapproved schools and by a solid area those registering more than 5 such candidates during 1940.

GRADUATES OF SCHOOLS OF OSTEOPATHY REGISTERED BY MEDICAL EXAMINING BOARDS,
1935-1940

In table 26 are given the number of graduates of schools of osteopathy granted the privilege of practicing medicine, surgery, or both, by medical examining boards from 1935 to 1940 inclusive, eliminating, for instance, those osteopaths in California and a few other states granted medical or surgical privileges by the osteopathic board.

In 1940 nine states registered such individuals, 114 by examination and 20 by endorsement of credentials; namely, in Colorado, the District of Columbia, Massachusetts, New Hampshire, New Jersey, Oregon, Texas, Wisconsin and Wyoming. In 1939 also 118 secured similar privileges in seven states.

These facts for 1940 are shown graphically in chart 2, on page 2042, indicating by shaded lines those registering fewer than 6 graduates of osteopathic colleges and by a solid area more than 5 such graduates.

In Colorado osteopaths have no separate board. They are admitted to the examination for a license to practice medicine. The statute of Colorado is silent with respect to the scope of practice authorized by a license issued to osteopaths.

The Connecticut statute provides that any registered osteopath may practice either medicine, surgery, or both, as the case may be, after passing a satisfactory examination before the medical examining board.

The Massachusetts statute, by definition, includes osteopathy in the practice of medicine and does not differentiate the type of license issued to an osteopathic applicant. The medical practice act requires that any applicant for license to practice must be in possession of a degree of doctor of medicine, or its equivalent, from a legally chartered medical school which gives a full four year course of instruction of not less than thirty-two weeks in each year. An amendment to the medical practice act providing an approving authority is not yet effective.

In New Hampshire osteopaths are granted the right to practice medicine and surgery by the Board of Registration in Medicine.

In New Jersey, osteopathic licentiates who furnish proof (1) of having served for a period of two years as an intern or resident surgeon in an osteopathic or medical hospital approved by the state board of medical examiners, (2) of having completed a postgraduate

course of two years in a college of osteopathy or medicine approved by the board or (3) of having had at least three years of practice in a hospital approved by the board may be admitted to an examination in pharmacology, therapeutics and surgery and if the examination is passed may obtain a license to practice medicine and surgery. After Nov. 1, 1941, all osteopathic applicants who meet the requirements of the medical practice act will receive licenses to practice medicine and surgery.

The statutes of Texas provide for the issuing of a license to practice medicine only. So far as the statutes indicate, the osteopaths are not restricted in their field of practice.

In Virginia, osteopaths may obtain the right to "perform surgery with the use of instruments" if they satisfy the board of medical examiners that they have had "adequate clinical facilities in their respective college of graduation, or by hospital work to enable them to perform such operations."

In Wyoming, the statutes contain no specific provision for the licensing of osteopaths. The medical practice act provides that the certificates issued to all applicants "shall be deemed licenses to practice medicine in all branches in which the applicant has taken examination in this state."

In the District of Columbia, Oregon and Wisconsin osteopaths are granted the right to practice surgery.

In Indiana the licenses issued to osteopaths authorize the holders to practice osteopathy, surgery and obstetrics. None were reported licensed in 1940.

PHYSICIANS EXAMINED ON THE BASIS OF CERTIFICATES OBTAINED IN COUNTRIES OTHER THAN
THE UNITED STATES AND CANADA

Data recently received from state boards of medical examiners pertaining to the requirements of candidates for medical licensure holding credentials from medical schools outside of the United States and Canada are presented in table 27. Sixteen states report that, because of the inability to evaluate foreign credentials, holders of such certificates are not eligible for licensure while one state reported that no new applications have been accepted since Feb. 21, 1941. Nineteen states require full citizenship and ten states first papers as a condition precedent to taking the state board examination. In some states the requirement is made by rule of the medical board, in others the provision is by statute. In addition, other restrictions are imposed. Eleven states require a certificate in the basic sciences. Nineteen states require a one year internship in a United States hospital approved for intern training. In five states there is a requirement of a senior year's work in an approved medical school in the United States. In six states these graduates are not acceptable unless they can present a license to practice medicine and surgery in the country in which the school of graduation is located.

Table 28 presents figures for those physicians examined on the basis of credentials obtained in countries other than the United States and Canada by licensing boards of the United States and Puerto Rico. The figures represent both American and foreign born physicians educated abroad. It will be recalled that during the last ten years students from the United States have migrated to Europe to pursue medical courses. In 1937-1938, 1,346 citizens of the United States were so enrolled. The majority, however, of those now being licensed represent foreign born physi-

TABLE 29.—Physicians Examined on the Basis of Credentials Obtained in Countries Other Than the United States and Canada by Licensing Boards of the United States and Possessions, 1935-1940

	1935-1939		1940			1935-1939		1940	
	Number Examined	Percentage Failed	Number Examined	Percentage Failed		Number Examined	Percentage Failed	Number Examined	Percentage Failed
AUSTRALIA					IRELAND—Continued				
University of Sydney.....	1	0.0	0	0.0	National University of Ireland.....	8	37.5	1	100.0
BELGIUM					Queen's University, Belfast.....	1	0.0	0	0.0
Université Catholique de Louvain.....	3	33.3	0	0.0	University of Dublin.....	12	25.0	5	40.0
Université de Liège.....	5	60.0	0	0.0	ITALY				
Université Libre de Bruxelles.....	6	16.7	5	20.0	Regia Università di "Benito Mussolini" di Bari.....	2	50.0	3	100.0
Universiteit Gent.....	4	75.0	0	0.0	Regia Università di Bologna.....	96	58.3	42	71.4
CHILE					Regia Università di Catania.....	2	50.0	1	0.0
Universidad de Chile, Santiago.....	2	0.0	0	0.0	Regia Università di Firenze.....	17	35.3	8	50.0
CHINA					Regia Università di Genova.....	14	78.6	8	75.0
Pennsylvania Medical School, Shanghai.....	5	20.0	1	0.0	Regia Università di Messina.....	8	100.0	3	100.0
Woman's Christian Medical College, Shanghai.....	1	0.0	0	0.0	Regia Università di Milano.....	10	60.0	22	41.7
CHOSEN (KOREA)					Regia Università di Modena.....	12	75.0	5	100.0
Severance Union Medical College, Keijo.....	1	100.0	0	0.0	Regia Università di Napoli.....	135	62.2	41	73.2
CUBA					Regia Università di Padova.....	21	57.1	0	50.0
Universidad de la Habana.....	8	50.0	0	0.0	Regia Università di Palermo.....	17	70.6	5	100.0
CZECHOSLOVAKIA					Regia Università di Perugia.....	2	50.0	4	100.0
Deutsche Universität, Prag.....	71	43.7	57	50.9	Regia Università di Pisa.....	5	40.0	8	62.5
Masarykova Universität, Brno.....	4	50.0	1	100.0	Regia Università di Roma.....	15	53.3	12	63.3
Univerzita Karlova, Praha.....	13	84.6	17	52.9	Regia Università di Siena.....	231	51.6	48	70.8
Univerzita Komenského, Bratislava.....	5	40.0	1	0.0	Regia Università di Torino.....	13	69.2	7	71.4
DENMARK					JAPAN				
Københavns Universitet.....	0	0.0	1	100.0	Japan Medical College, Tokyo.....	4	100.0	1	100.0
ENGLAND					LATVIA				
Charing Cross Hospital Medical School, London....	0	0.0	1	0.0	Latvijas Universitāte, Riga.....	2	100.0	1	100.0
Fellow of the Royal College of Physicians of London.....	1	0.0	0	0.0	LEBANON				
Licentiate in Medicine, Surgery and Midwifery of the Apothecaries' Society of London.....	5	60.0	2	100.0	American University of Beirut.....	4	0.0	3	33.3
Licentiate of the Royal College of Physicians of London and Member of the Royal College of Physicians of London.....	2	50.0	0	0.0	Université de St. Joseph, Beyrouth.....	1	0.0	1	100.0
Licentiate of the Royal College of Physicians of London and Member of the Royal College of Surgeons of England.....	66	10.6	10	40.0	MEXICO				
Middlesex Hospital Medical School, London.....	0	0.0	1	0.0	Escuela Libre de Homeopatía del Estado de Puebla.....	1	100.0	1	100.0
University of Birmingham.....	3	0.0	0	0.0	Escuela Médico Militar, México, D. F.....	6	83.3	0	0.0
University of Bristol.....	2	0.0	1	0.0	Instituto Literario y Científico, San Luis Potosí.....	1	100.0	0	0.0
University of Cambridge.....	1	0.0	0	0.0	Universidad Nacional, México, D. F.....	12	66.7	4	50.0
University of Durham, Newcastle-upon-Tyne.....	9	22.2	0	0.0	NETHERLANDS				
University of Liverpool.....	1	0.0	0	0.0	Rijks-Universiteit te Groningen.....	0	0.0	3	33.3
University of London.....	6	50.0	0	0.0	Rijks-Universiteit te Leiden.....	2	0.0	0	0.0
University of Oxford.....	1	0.0	1	0.0	Rijks-Universiteit te Utrecht.....	1	0.0	0	0.0
University of Sheffield.....	8	0.0	0	0.0	Universiteit van Amsterdam.....	2	0.0	3	33.3
ESTONIA					NORWAY				
Universitè de Tartu.....	2	100.0	1	100.0	Kongelige Fredericks Universitet, Oslo.....	0	0.0	1	0.0
FRANCE					POLAND				
Université de Bordeaux.....	2	50.0	0	0.0	Uniwersytet Jagielloński, Cracow.....	0	0.0	1	100.0
Université de Lyon.....	7	42.9	3	66.7	Uniwersytet Jana Kazimierza, Lwów.....	5	40.0	2	50.0
Université de Montpellier.....	7	28.6	1	0.0	Uniwersytet Józefa Piłsudskiego, Warszawa.....	6	50.0	4	75.0
Université de Nancy.....	6	66.7	3	66.7	Uniwersytet Stefana Batorego, Wilno.....	2	50.0	6	33.3
Université de Paris.....	127	35.4	22	54.5	PORTUGAL				
Université de Strasbourg.....	4	0.0	3	66.7	Universidade de Lisboa.....	2	50.0	1	100.0
Université de Toulouse.....	5	20.0	0	0.0	RUMANIA				
GERMANY					Universitatea din Bucuresti.....	2	50.0	0	0.0
Freiburg.....	88	37.5	41	73.2	Universitatea Regale Ferdinand I-ii din Cluj.....	5	40.0	0	0.0
Freiburg.....	51	52.9	28	60.7	SCOTLAND				
Kiel.....	21	42.9	9	55.6	Anderson College of Medicine, Glasgow.....	0	0.0	1	100.0
Eberhard-Karls Universität, Tübingen.....	21	47.6	8	62.5	Fellow of the Royal Faculty of Physicians and Surgeons of Glasgow.....	1	0.0	0	0.0
Ernst-Moritz-Arndt Universität Greifswald.....	1	100.0	2	100.0	Licentiate of the Royal College of Physicians of Edinburgh.....	1	0.0	0	0.0
Erlangen.....	26	65.4	8	37.5	Licentiate of the Royal College of Physicians of Edinburgh and Licentiate of the Royal College of Surgeons of.....	6	0.0	0	0.0
Berlin.....	493	38.6	191	58.1	Licentiate of the Royal College of Physicians and Surgeons, the Royal Faculty of Physicians and Surgeons, Glasgow.....	231	19.5	71	28.2
Hamburgische Universität.....	28	50.0	14	67.1	School of Medicine of the Royal Colleges, Edinburgh.....	1	0.0	1	0.0
Hessische Ludwigs-Universität, Giessen.....	80	30.0	22	45.5	St. Mungo's College Medical School, Glasgow.....	0	0.0	1	0.0
Johann Wolfgang Goethe-Universität, Frankfurt.....	25	40.0	14	71.4	University of Aberdeen.....	6	16.7	0	0.0
HUNGARY					University of Edinburgh.....	55	9.1	2	0.0
Magyar Királyi Erzsébet Tudományegyetem, Pécs.....	14	64.3	22	59.1	University of Glasgow.....	36	0.0	2	50.0
Magyar Királyi Ferencz József Tudományegyetem, Szeged.....	9	44.4	7	71.4	University of St. Andrews.....	49	12.2	4	50.0
Magyar Királyi Pázmány Petrus Tudományegyetem, Budapest.....	50	44.1	42	57.1	SOUTH AFRICA, UNION OF				
Magyar Királyi Tisza-István-Tudományegyetem, Debrecen.....	3	33.3	1	100.0	University of Cape Town.....	1	0.0	0	0.0
IRELAND					SPAIN				
Licentiate of the Apothecaries' Hall, Dublin.....	0	0.0	1	100.0	Universidad Central de España, Madrid.....	2	33.3	2	50.0
Licentiate of the Royal College of Physicians of Ireland and Licentiate of the Royal College of Surgeons in Ireland.....	5	40.0	0	0.0	Universidad de Santiago.....	1	0.0	0	0.0
GUATEMALA					SWEDEN				
Universidad Nacional de Guatemala.....	2	50.0	0	0.0	Karolinska Mediko-Kirurgiska Institut, Stockholm.....	0	0.0	1	100.0
HUNGARY					SWITZERLAND				
Magyar Királyi Erzsébet Tudományegyetem, Pécs.....	14	64.3	22	59.1	Universität Basel.....	190	31.5	36	47.2
Magyar Királyi Ferencz József Tudományegyetem, Szeged.....	9	44.4	7	71.4	Universität Bern.....	216	33.3	52	50.0
Magyar Királyi Pázmány Petrus Tudományegyetem, Budapest.....	50	44.1	42	57.1	Universität Zürich.....	169	33.9	19	52.6
Magyar Királyi Tisza-István-Tudományegyetem, Debrecen.....	3	33.3	1	100.0	Université de Genève.....	96	32.3	14	64.3
IRELAND					Université de Lausanne.....	98	34.7	31	71.0
Licentiate of the Apothecaries' Hall, Dublin.....	0	0.0	1	100.0	TURKEY				
Licentiate of the Royal College of Physicians of Ireland and Licentiate of the Royal College of Surgeons in Ireland.....	5	40.0	0	0.0	University of.....	2	100.0	1	100.0
GUATEMALA					UNION OF				
Universidad Nacional de Guatemala.....	2	50.0	0	0.0	First Leningr.....	0	0.0	1	100.0
HUNGARY					First Moscow Medical Institute.....	1	0.0	1	0.0
Magyar Királyi Erzsébet Tudományegyetem, Pécs.....	14	64.3	22	59.1	Kharkov Medical Institute.....	2	50.0	1	0.0
Magyar Királyi Ferencz József Tudományegyetem, Szeged.....	9	44.4	7	71.4	Kiev Medical Institute.....	4	100.0	2	50.0
Magyar Királyi Pázmány Petrus Tudományegyetem, Budapest.....	50	44.1	42	57.1	Military Medical Academy, Leningrad.....	1	100.0	0	0.0
Magyar Királyi Tisza-István-Tudományegyetem, Debrecen.....	3	33.3	1	100.0	Saratov Medical.....	2	50.0	2	50.0
IRELAND					Second Leningrad.....	1	0.0	0	0.0
Licentiate of the Apothecaries' Hall, Dublin.....	0	0.0	1	100.0	Second Moscow.....	1	0.0	0	0.0
Licentiate of the Royal College of Physicians of Ireland and Licentiate of the Royal College of Surgeons in Ireland.....	5	40.0	0	0.0	Tomsk Medical Institute.....	0	0.0	1	100.0
GUATEMALA					Vinnitsa Medical Institute.....	1	100.0	0	0.0
Universidad Nacional de Guatemala.....	2	50.0	0	0.0	Voronezh Medical Institute.....	1	100.0	0	0.0
HUNGARY					YUGOSLAVIA				
Magyar Királyi Erzsébet Tudományegyetem, Pécs.....	14	64.3	22	59.1	Zagrebaskog Univerziteta.....	1	0.0	0	0.0
Magyar Királyi Ferencz József Tudományegyetem, Szeged.....	9	44.4	7	71.4	Totals.....	4,800	40.0	2,092	51.7
Magyar Királyi Pázmány Petrus Tudományegyetem, Budapest.....	50	44.1	42	57.1					
Magyar Királyi Tisza-István-Tudományegyetem, Debrecen.....	3	33.3	1	100.0					

cians. One hundred and two faculties of medicine, including four licensing corporations, of twenty-two European and four other countries were represented. There were 2,092 examined, of whom 948 passed and 1,144, or 54.7 per cent, failed. Graduates of the University of Vienna represented the largest group, 613, and were examined in thirteen states, 50.4 per cent of whom failed. Thirteen states examined 191 graduates of the University of Berlin. Graduates of all other

TABLE 30.—Physicians Examined on the Basis of Credentials Obtained in Countries Other Than the United States and Canada, 1930-1940

Year	Number Examined	Passed	Percentage Failed
1930.....	167	92	44.9
1931.....	158	91	42.4
1932.....	182	96	47.3
1933.....	200	129	35.5
1934.....	285	170	40.2
1935.....	437	303	30.7
1936.....	588	382	35.0
1937.....	920	637	30.8
1938.....	1,164	716	38.5
1939.....	1,691	839	50.4
1940.....	2,092	948	54.7
Totals.....	7,884	4,403	44.2

schools were examined in fewer than ten states. Altogether twenty-two states and Puerto Rico examined physicians educated abroad. The state of New York had the greatest number, 1,429, of whom 535 passed and 894, or 62.6 per cent, failed. Massachusetts examined 223 with 112 successful and 111 unsuccessful results, or 49.8 per cent. Illinois examined 141 of whom 119 passed and 22 failed, or 15.6 per cent. Fifty-six were tested in New Jersey, 51.8 per cent of whom failed. California and Ohio each examined 47 with 21.3 per cent and 31.9 per cent failures, respectively. Other states examining a considerable number of graduates of foreign medical faculties included Connecticut 36, failures 63.9 per cent; Maryland 35, failures 45.7 per cent, and Pennsylvania 27 with 29.6 per cent failures. Thirteen states and Puerto Rico licensed fewer than 11 and ten of these states fewer than 5.

In addition to the figures presented in this table, 67 graduates of foreign faculties of medicine were licensed in 1940 without examination by endorsement of credentials.

Chart 3, page 2044, also shows in graphic form the states which during 1940 registered graduates of foreign faculties of medicine by examination, reciprocity and endorsement. Included in the figures on the chart are 67 granted licenses without examination, with but a few exceptions on the basis of a license obtained in the United States. From a perusal of tables 2, 10 and 14 it can be ascertained how many were licensed by both these means in the various states. The states which licensed more than 5 graduates are indicated by states reproduced in black; those shaded less than 5.

In table 29 are assembled figures showing the standing during the five year period 1935 to 1939 inclusive of the graduates of faculties of medicine outside the United States and Canada admitted to licensing examinations in this country. Included also is a tabulation for 1940. There were represented one hundred and thirty-six foreign faculties and ten of the licensing corporations of Great Britain. During the five year period shown 4,800 were examined and in 1940, 2,092. The largest number from any one school in the five year period shown was from the University of Vienna, 728,

of whom 41.8 per cent failed. There were 498 from the University of Berlin, with 38.6 per cent failures. Large numbers also were examined who represented the Universities of Munich, Breslau, Heidelberg, Paris, Naples, Rome, Basel, Bern and Zurich. There were 231 in the five year period who presented in lieu of an M.D. degree the triple qualification certificate of Scotland. These individuals secured their education in the so-called extramural schools of Scotland. In 1940, many graduates were examined from schools in Czechoslovakia, Germany, Hungary, Italy, Scotland and Switzerland.

Table 30, the last in this group of statistics, records the number of graduates of faculties of medicine abroad examined for medical licensure in the United States in the eleven years 1930 to 1940 inclusive. In eleven years, 7,884 were examined, 4,403 were successful in their examination and 44.2 per cent failed. In 1940 the greatest number were examined, 2,092, 401 more than in 1939, 928 more than in 1938 and 1,925 more than in 1930.

BASIC SCIENCE BOARDS

Legislation creating and setting up basic requirements underlying the practice of the healing art has been enacted in fifteen states and the District of Columbia. These acts provide that certification by a board of examiners in the basic sciences be a prerequisite to eligibility for a license to practice the healing art whether the license is to be issued after examination or on the basis of endorsement or reciprocity. Some basic science boards have reciprocal agreements, but the certificate is obtainable after examination in the majority of instances.

During 1940 basic science boards functioned in Arizona, Arkansas, Colorado, Connecticut, District of Columbia, Florida, Iowa, Michigan, Minnesota, Nebraska, Oklahoma, Oregon, Rhode Island, South Dakota, Washington and Wisconsin.

Basic science requirements were established in Michigan in 1937 but no examinations were given until 1940 because of an injunction which was decided in favor of the board early in 1940. Only one new board was added in 1940, namely Rhode Island. Examinations were held for the first time in Michigan and Rhode

TABLE 1.—States Having Basic Science Law and Year of Enactment

Arizona.....	1936	Minnesota.....	1927
Arkansas.....	1929	Nebraska.....	1927
Colorado.....	1937	Oklahoma.....	1937
.....	1925	Oregon.....	1933
.....	1929	Rhode Island.....	1940
.....	1929	South Dakota.....	1929
Iowa.....	1935	Washington.....	1927
Michigan.....	1937	Wisconsin.....	1925

Island in June 1940. The years in which the various acts were enacted are shown in table 1.

Statistics based on the number of candidates certified in 1940 and those who failed to receive certification, together with the totals for other years shown for comparison, are included in the accompanying tables. Similar data have been published in the State Board Number of THE JOURNAL since 1928.

The subjects in which examinations are conducted in the respective states and the District of Columbia are given in table 2. The subjects included in basic science examinations are specified by the statutes. The examination boards may neither add to nor subtract from

such subjects. All boards examine in anatomy, pathology and physiology; fourteen examine in chemistry; twelve in bacteriology, seven in hygiene, two in diagnosis and one in hygiene and public health.

Physicians, osteopaths, chiropractors and unclassified applicants examined during 1940 in these various groups are included in table 3. There were 1,598 candidates

TABLE 2.—Subjects

	Examinations Required in							Hygiene and Public Health
	Anat-omy	Bacteri-ology	Chem-istry	Diag-nosis	Hy-giene	Pathol-ogy	Physi-ology	
Arizona.....	+	+	+	..	+	+	+	..
Arkansas.....	+	+	+	..	+	+	+	..
Colorado.....	+	+	+	..	+	+	+	..
Connecticut.....	+	+	+	+	+	..
Dist. Columbia.....	+	+	+	+	+	..
Florida.....	+	+	+	..	+	+	+	..
Iowa.....	+	+	+	..	+	+	+	..
Michigan.....	+	+	+	..	+	+	+	+
Minnesota.....	+	+	+	..	+	+	+	..
Nebraska.....	+	+	+	..	+	+	+	..
Oklahoma.....	+	+	+	..	+	+	+	..
Oregon.....	+	+	+	..	+	+	+	..
Rhode Island.....	+	+	+	..	+	+	+	..
South Dakota.....	+	+	+	..	+	+	+	..
Washington.....	+	+	+	+	+	..
Wisconsin.....	+	+	..	+	+	..

examined by boards in the sixteen states named. Of this number 1,303 were doctors of medicine, 103 osteopaths and 29 chiropractors. Included among the 148 listed as unclassified applicants were a few doctors of dentistry, but for the majority it was not possible to determine what profession they represented. In apply-

TABLE 3.—Applicants Examined, 1940

	Physi- cians or Medical Students		Osteo- paths		Chiro- prac- tices		Unclas- sified		Total Ex- amined	Passed	Failed	Percentage Failed
	P	F	P	F	P	F	P	F				
Arizona.....	29	..	0	..	0	..	0	..	44	29	15*	34.1
Arkansas.....	28	0	0	0	0	0	0	0	28	28	0	0.0
Colorado.....	27	2	2	1	0	0	2	2	36	31	5	13.9
Connecticut.....	113	6	1	1	2	1	0	0	124	116	8	6.5
District of Columbia.....	27	2	1	0	0	0	0	0	30	28	2	6.7
Florida.....	164	18	10	9	0	0	10	4	215	184	31	14.4
Iowa.....	64	4	33	8	2	3	21	18	153	120	33	21.6
Michigan.....	52	17	0	2	0	1	1	3	76	53	23	30.3
Minnesota.....	172	44	4	3	0	2	9	20	254	185	69	29.7
Nebraska.....	86	17	2	1	0	0	5	1	112	93	19	17.0
Oklahoma.....	56	5	0	0	0	0	1	0	62	57	5	8.1
Oregon.....	56	14	2	4	0	0	4	6	86	62	24	27.9
Rhode Island.....	29	0	0	0	1	1	17	1	49	47	2	4.1
South Dakota.....	8	2	0	0	1	1	0	1	13	9	4	30.8
Washington.....	100	27	1	6	0	11	0	0	145	101	44	30.3
Wisconsin.....	129	5	9	3	2	1	10	12	171	150	21	12.3
Totals—Examined.....	1,303		103		29		148		1,598			
Totals—Passed.....	1,140		65		8		80		1,293			
Totals—Failed.....	163		38		21		68		305			
Percentage Failed.....	12.5		36.9		72.4		45.9		19.1			

* School of practice undeterminable since names of failures not supplied.

ing for a basic science certificate it is not necessary in most of the states to mention the school of practice, but by checking the biographic records of the American Medical Association and published directories it has been possible to determine what profession the majority of the candidates represented.

Of all applicants examined, 1,293 passed and 305 failed. 19.1 per cent. Of all physicians examined 12.5 per cent failed, of the osteopaths 36.9 per cent failed, of the chiropractors 72.4 per cent, and of those unclassified 45.9 per cent. Among those who passed there were 1,140 physicians, 65 osteopaths, 8 chiropractors and 80 who were unclassified. Minnesota examined the

greatest number, 254 of whom, 29.7 per cent, failed. The next largest number, 215, were examined in Florida, with 14.4 per cent failures. Osteopaths were examined in Colorado, Connecticut, the District of Columbia, Florida, Iowa, Michigan, Minnesota, Nebraska, Oregon, Washington and Wisconsin. In fact, osteopaths were examined in every state except Arizona, Arkansas, Oklahoma, Rhode Island and South Dakota. Chiropractors were examined in eight states, namely Connecticut, Iowa, Michigan, Minnesota, Rhode Island, South Dakota, Washington and Wisconsin.

The highest percentage of failures, 34.1, was in Arizona, which examined 29 physicians and 15 others. It is the policy of the Arizona Board of Examiners in the

TABLE 4.—Certificates Issued by Examination, Reciprocity and Endorsement, 1940

	Examination				Reciprocity and Endorsement				Registered
	Physicians or Medical Stud.	Osteopaths	Chiropractors	Unclassified	Physicians or Medical Stud.	Osteopaths	Chiropractors	Unclassified	
Arizona.....	29	0	0	0	29	0	0	0	29
Arkansas.....	23	0	0	0	23	1	0	0	30
Colorado.....	27	2	0	2	31	13	0	0	13
Connecticut.....	113	1	2	0	116	0	0	0	0
Dist. of Columbia.....	27	1	0	0	28	49	0	0	49
Florida.....	164	10	0	10	184	0	0	0	0
Iowa.....	64	33	2	21	120	71	1	0	72
Michigan.....	52	0	0	1	53	2	0	0	2
Minnesota.....	172	4	0	9	185	77	2	0	79
Nebraska.....	86	2	0	5	93	13	0	0	13
Oklahoma.....	56	0	0	1	57	0	0	0	0
Oregon.....	56	2	0	4	62	13	0	1	14
Rhode Island.....	29	0	1	17	47	0	0	0	0
South Dakota.....	8	0	1	0	9	2	2	0	13
Washington.....	100	1	0	101	0	0	0	0	0
Wisconsin.....	129	9	2	10	150	48	11	0	61
Totals.....	1,140	65	8	801	2,033	324	17	3	346

Basic Sciences not to list the names of applicants who fail examinations, nor does the law require the board to list the professional school of graduation of the examinees. The failures therefore for this state are

TABLE 5.—Total Candidates, 1927-1940

	Physicians or Medical Students Examinations					Other Practitioners Examinations				
	No. of Boards	Examined	Passed	Failed	Percentage Failed	Examined	Passed	Failed	Percentage Failed	Total Certified
1927	5	305	279	26	8.5	26	305	22	15	7
1928	5	646	586	60	9.3	19	605	59	31	28
1929	5	668	610	58	8.7	75	685	66	31	25
1930	7	685	606	79	11.5	118	724	78	30	48
1931	7	680	586	94	13.8	141	737	107	48	59
1932	7	657	590	67	10.2	106	696	78	44	51
1933	8	601	527	74	12.3	121	618	60	30	50
1934	9	815	725	90	11.0	127	839	51	26	55.7
1935	10	882	761	121	13.7	110	871	74	33	41
1936	10	1,032	891	141	13.7	230	1,121	66	26	40
1937	12	1,231	1,061	170	13.8	192	1,253	113	41	72
1938	12	1,168	1,026	142	12.2	267	1,293	158	70	88
1939	14	1,141	1,013	128	11.2	727	1,740	218	97	121
1940	16	1,303	1,140	163	12.5	324	1,464	280	153	127
Totals	11,814	10,401	1,413	12.0	2,583	12,984	1,429	674	755	52.8

recorded in the total column only. Three other states had more than 30 per cent failures.

The number of certificates issued by examination, reciprocity and endorsement are recorded in table 4. A total of 1,293 were granted after examination; 1,140

were issued to physicians or medical students, 65 to osteopaths, 8 to chiropractors and to 80 persons who were unclassified. There were also 346 certified without examination, by reciprocity and endorsement, representing 324 physicians or medical students, 17 osteopaths, 3 chiropractors and 2 who were unclassified. Minnesota accepted the greatest number without examination, 79, of whom 77 were physicians and 2 osteopaths. Arizona, Connecticut, Florida, Oklahoma, Rhode Island and Washington licensed none without examination. Arizona, Florida and Washington have no reciprocal agreements. Chiropractors and those unclassified were licensed without examination in 3 states.

Altogether 1,639 individuals received basic science certificates in 1940 in 16 states, ranging from 22 in South Dakota to 264 in Minnesota.

The number of candidates examined and certified, or certified by reciprocity or endorsement, from 1927 to 1940 inclusive will be found in table 5. Five boards functioning in 1927 examined 305 physicians or medical students, of whom 26, 8.5 per cent, failed and 22 other practitioners, of whom 7, or 31.8 per cent, failed. In 1940, by comparison, 1,639 were certified. During the fourteen year period a total of 12,984 physicians were examined, of whom 10,401 passed and 1,413, 12.0 per cent, failed and 1,429 other practitioners, of whom 52.8 per cent failed. During this period 2,583 physicians were certified without examination, while only 407 other practitioners were so registered.

Altogether 14,065 certificates have been issued by basic science boards since 1927, of whom 12,984 were granted to physicians and 1,081 to other practitioners. During this fourteen year period 11,814 physicians or medical students were examined, of whom 10,401 were registered, and 1,429 other practitioners were examined, 674 of whom received certificates. During this fourteen year period also 2,583 physicians and 407 others received certificates by examination, reciprocity and endorsement.

From the high percentage of failures in the other practitioner group it seems apparent that the enforcement of basic science laws affects mostly this group. The object of such laws is to provide a means of insuring that all candidates seeking the right to care for sick and injured people shall first possess a reasonable knowledge of the sciences fundamental to the healing art.

NATIONAL BOARD OF MEDICAL EXAMINERS

The National Board of Medical Examiners was founded in 1915 by Dr. W. L. Rodman, then President of the American Medical Association. He stated its aims and purposes to be "to establish a standard of examination and certification of graduates in medicine for the whole United States and its territories through which by the cooperation of the state and territorial boards of medical examiners its licentiates may be recognized for licensure to practice medicine."

The National Board was incorporated on March 17, 1922 under the laws of the District of Columbia. Its constitution provides for a membership of thirty. This includes six members representing the federal services, five members nominated by the Federation of State Medical Boards of the United States, three members nominated by the Association of American Medical Colleges and two members nominated by the Council on Medical Education and Hospitals of the American Med-

ical Association. The remaining fourteen members are elected at large, especial attention being given to their geographic distribution.

The certificate of the National Board is accepted as an adequate qualification for a medical license by the licensing authorities of forty-three states and the District of Columbia, Alaska, the Canal Zone, Hawaii and Puerto Rico. Table 1 contains this information in tabulated form. Diplomates are required by some states to meet certain requirements.

The examination of the National Board in the basic sciences are accepted in lieu of the examinations in these subjects given by the basic science boards of Connecticut, Iowa, Minnesota, Nebraska and the District of Columbia.

Diplomates are also admitted to the final examination of the Conjoint Examining Boards of England

TABLE 1.—States Endorsing Certificates of National Board of Medical Examiners

Alabama	Illinois	Montana	Pennsylvania
Alaska	Indiana	Nebraska	Puerto Rico
Arizona	Iowa	Nevada	Rhode Island
Arkansas	Kansas	New Hampshire	South Carolina
California	Kentucky	New Jersey	South Dakota
Canal Zone	Maine	New Mexico	Tennessee
Colorado	Maryland	New York	Utah
Connecticut	Massachusetts	North Carolina	Vermont
Delaware	Michigan	North Dakota	Virginia
Dist. of Columbia	Minnesota	Ohio	Washington
Georgia	Mississippi	Oklahoma	West Virginia
Hawaii	Missouri	Oregon	Wyoming

TABLE 2.—Examinations, 1916-1921

Date	Total Examined	Passed	Failed	Percentage Failed
October 1916.....	10	5	5	50.0
June 1917.....	12	9	3	25.0
October 1917.....	28	22	6	21.5
January 1918.....	20	18	2	10.0
April 1918.....	23	18	5	21.7
December 1918.....	16	15	1	6.3
June 1919.....	52	51	1	1.9
February 1920.....	48	36	12	25.0
May 1920.....	60	46	14	23.3
February 1921.....	16	11	5	31.3
June 1921.....	40	37	3	7.5
Totals.....	325	268	57	17.5

and Ireland and the Triple Qualification Board of Scotland. The certificate is accepted by the United States Public Health Service in lieu of the usual written examination.

In the following paragraphs are presented data regarding the examinations of and the issuance of certificates by the National Board of Medical Examiners. Similar data have been presented in the State Board Number of THE JOURNAL for twenty-three years.

The preparation for and participation by the United States in the World War materially interfered with the early development of the work of the National Board, but since 1922 the number obtaining its certificate has been steadily increasing. Up to Dec. 31, 1921 eleven examinations were held and two hundred and sixty-eight candidates were certified. In table 2 are recorded the results of each examination since 1916.

In 1922 the examination plans were changed. The examinations were divided into three separate parts, which must be taken and completed in the following sequence: Part I, a written examination, covers the work of the six fundamental medical sciences, part II, likewise a written examination, in five major clinical subjects, and part III the clinical preparation of the

candidate after at least one year's internship. Examinations in parts I and II are held at approved medical schools where there are five or more candidates desiring to be examined, and part III is held in twenty-two established centers throughout the United States.

TABLE 3.—Examinations in Part I in 1940 and 1922-1940

Date	Total Examinations	Passed	Incomplete	Failed	Percentage Failed
February.....	242	179	19	44	19.7
June.....	1,030	657	239	104	13.1
September.....	379	202	116	61	23.2
Totals.....	1,651	1,068	374	209	16.4
1922.....	388	263	58	67	20.3
1923.....	507	349	77	81	18.8
1924.....	591	415	69	107	20.5
1925.....	608	400	50	158	28.3
1926.....	625	436	104	85	16.3
1927.....	702	452	159	91	16.8
1928.....	848	533	231	79	12.9
1929.....	1,056	675	331	90	11.8
1930.....	1,260	801	345	114	12.5
1931.....	1,277	755	425	97	11.4
1932.....	1,307	847	371	89	9.5
1933.....	1,234	782	316	136	14.8
1934.....	1,241	809	347	85	9.5
1935.....	1,264	785	410	69	8.1
1936.....	1,344	858	363	123	12.5
1937.....	1,435	871	415	149	14.0
1938.....	1,654	986	508	160	14.1
1939.....	1,733	1,048	460	225	17.7
1940.....	1,651	1,068	374	209	16.4
Totals.....	20,760	13,133	5,413	2,214	14.4

The tables hereinafter presented enumerate the results of examinations in parts I, II and III for each calendar year since 1922, indicating those who passed and failed examinations, and those certified.

Candidates are required to take all six subjects of part I at a regular examination period unless entitled to take an incomplete examination or electing to take a divided examination. An incomplete examination is

TABLE 4.—Examinations in Part II in 1940 and 1922-1940

Date	Total Examinations	Passed	Incomplete	Failed	Percentage Failed
February.....	134	130	0	4	3.0
May.....	561	533	0	28	5.0
June.....	231	206	9	16	7.2
September.....	102	94	0	8	7.5
Totals.....	1,028	963	9	56	5.5
1922.....	109	90	0	19	17.4
1923.....	192	170	2	20	10.5
1924.....	267	227	0	40	15.0
1925.....	342	309	0	33	9.6
1926.....	381	334	1	46	12.1
1927.....	361	314	1	46	12.8
1928.....	410	371	1	38	9.3
1929.....	465	399	19	47	10.5
1930.....	620	543	7	70	11.4
1931.....	719	630	2	87	12.1
1932.....	732	674	0	58	7.9
1933.....	714	651	0	63	8.8
1934.....	633	583	0	50	7.9
1935.....	689	620	0	69	10.0
1936.....	768	716	2	50	6.5
1937.....	855	803	1	51	6.0
1938.....	861	815	0	46	5.3
1939.....	938	884	0	54	5.8
1940.....	1,028	963	9	56	5.5
Totals.....	11,034	10,096	45	943	8.5

arranged for candidates taking part I at the end of their second medical year in schools whose third year curriculums include courses in one or two subjects of this part. The examinations in the subjects not yet completed are therefore postponed and may be taken at any examination period after the candidate has completed them in the medical school. Also listed under this heading are those who wish to spend some addi-

tional time on one or two subjects. Any candidate not entitled to take an incomplete examination in part I may, if he so elects, take a divided examination by writing any four subjects at one time and the remaining two within thirteen months, but after at least one semester of study. The number taking divided examinations are included only when the examination has been completed. Incomplete examinations have been enumerated but were not included in percentage computations, since they represent neither a candidate eligible for certification nor a failure.

An average of 75 per cent of the grades attained in the six main divisions is necessary to pass part III. A candidate who fails to make an average of 75 per cent but has received grades of at least 75 per cent in three or more main divisions is required to repeat those divisions, either in whole or in part, in which he received grades below 75 per cent. In such case the candidate is "referred" in this subdivision and required after a three months interval to pass a reexamination. The privilege of a second reexamination is determined in

TABLE 5.—Examinations in Part III, 1922-1940

	Total Examinations	Passed	Failed	Percentage Failed
1922.....	22	22	0	0.0
1923.....	82	81	1	1.2
1924.....	126	120	6	4.8
1925.....	219	206	13	5.9
1926.....	255	243	12	4.7
1927.....	293	272	21	7.2
1928.....	322	306	16	5.0
1929.....	352	337	15	4.3
1930.....	420	401	19	4.5
1931.....	437	419	18	4.1
1932.....	550	522	28	5.1
1933.....	551	526	25	4.5
1934.....	567	548	19	3.4
1935.....	598	578	20	3.3
1936.....	576	547	29	6.0
1937.....	668	630	38	5.7
1938.....	706	682	24	3.4
1939.....	770	729	41	5.3
1940.....	721	770	21	2.7
Totals.....	8,305	7,939	366	4.4

Between 1916 and 1921 a total of 325 were examined, of whom 263 passed and 57, 14.3 per cent failed. Total certificates awarded, 8,207.

each case by the board. "Referred" candidates are likewise excluded from the statistics.

Three examinations in part I were held in 1940. Table 3 contains the results of these examinations together with the totals for eighteen years. In 1940, 1,651 examinations were given; 1,068 candidates passed, 374 were given incomplete examinations and 209, 16.4 per cent, failed.

Four examinations were given in part II, figures for which appear in table 4. Altogether 1,028 were so examined; 963 passed, 9 were reported as taking incomplete examinations and 56, 5.5 per cent, failed.

Since 1922 a total of 20,760 examinations have been given in part I and 11,034 in part II. From 1922 to 1940 inclusive, 13,133 were successful in passing part I and 10,096 in passing part II. The figures cover the totals of each examination given during a calendar year and include some who fail and are reexamined during the same year and also some who pass parts I and II in the same year. They represent therefore examinations conducted rather than individuals examined. In the nineteen year period since 1922 there have been 2,214 failures in part I, 14.4 per cent, and 943 in part II, 8.5 per cent. During this period 5,413 took incomplete examinations in part I and 45 in part II.

The results of examinations in part III for the nineteen year period 1922 to 1940 inclusive are presented

in table 5. In 1940, 791 were examined, as compared with only 22 in 1922. Of those examined in 1940, 21, or 2.7 per cent, failed. The highest percentage of failures was in 1927, when 293 were examined and 21, 7.2 per cent, failed. In nineteen years 8,305 were examined, of whom 7,939 were granted certificates and 366, 4.4 per cent, failed. Here again a candidate having failed may subsequently receive a certificate in the same year.

Between 1916 and 1921, when the examination was not given in three parts, 325 were examined, of whom 268 passed and 57, 14.3 per cent, failed.

Altogether from 1916 up to and including 1940, 8,207 certificates have been awarded. Physicians who earn the certificate are designated Diplomates of the National Board and are privileged to use in any proper manner the designating initials D.N.B. The Diplomates have formed a national organization entitled "The Associated Diplomates of the National Board," which meets at the time and place of the annual meeting of the American Medical Association. A membership emblem in the form of a gold key has been adopted.

TABLE 6.—Parts I, II and III, Excluding Duplications, 1922-1940

	Total Examined	Passed	Incom- plete	Failed	Percentage Failed
1922.....	525	381	58	86	18.4
1923.....	775	594	79	102	14.7
1924.....	978	756	69	153	16.8
1925.....	1,167	915	50	202	18.1
1926.....	1,161	930	105	126	11.9
1927.....	1,248	947	142	159	14.4
1928.....	1,430	1,101	211	118	9.7
1929.....	1,723	1,280	319	124	8.8
1930.....	2,044	1,547	322	175	10.2
1931.....	2,218	1,632	410	176	9.7
1932.....	2,342	1,850	355	137	6.9
1933.....	2,277	1,806	280	191	9.6
1934.....	2,261	1,801	330	130	6.7
1935.....	2,368	1,831	408	129	6.6
1936.....	2,517	1,989	333	175	8.1
1937.....	2,735	2,151	397	187	8.0
1938.....	2,992	2,308	493	191	7.6
1939.....	3,221	2,476	443	302	10.9
1940.....	3,186	2,595	363	228	8.1
Totals.....	37,168	28,890	5,187	3,091	9.7

The number of persons examined during any one year is given in table 6. The classification as passed or failed, in cases in which more than one examination has been taken in a given year, was based on the results of the last examination during the year in question. For example, if in 1940 a candidate passed part I but later in 1940 failed part II, he is listed as having failed. Taking this into consideration, there were 3,186 who took at least one of the examinations of the National Board of Medical Examiners during 1940, as compared with 525 in 1922. A total of 37,168 individuals were examined in one or more of the examinations in the nineteen years shown, of whom 28,890 passed, 5,187 took incomplete examinations and 3,091, 9.7 per cent, failed.

Examinations were held during 1940 at which 770 were successful. Graduates of fifty approved medical schools in the United States and three in Canada, and of fourteen faculties of medicine abroad were represented. Table 7 records the number of diplomates from each school certified in 1940. At the College of Medical Evangelists, students are required to pass parts I and II as a prerequisite to receiving their diploma. The comprehensive qualifying examination or part I of the examination of the National Board has been required of all medical students entering Yale University School

of Medicine since the fall of 1937. Students of Georgetown University School of Medicine are urged to take the examinations of the National Board. Students admitted to Boston University School of Medicine subsequent to 1937 are required to pass part I in order

TABLE 7.—Diplomates from Individual Medical Schools, 1940

	Certificates Awarded		Certificates Awarded
Univ. of Arkansas.....	4	Creighton Univ.....	3
Coll. of Med. Evan.....	88	Albany Med. Coll.....	17
Stanford Univ.....	1	Columbia Univ.....	11
Univ. of California.....	2	Cornell Univ.....	22
Univ. of Colorado.....	10	Long Island Coll. of Med.....	16
Yale Univ.....	33	New York Med. Coll.....	51
George Washington Univ.....	9	New York Univ.....	16
Georgetown Univ.....	26	Syracuse Univ.....	4
Howard Univ.....	2	Univ. of Buffalo.....	37
Emory Univ.....	1	Duke Univ.....	46
Loyola Univ.....	4	Univ. of Cincinnati.....	3
Northwestern Univ.....	28	Univ. of Oklahoma.....	5
Rush Med. Coll.....	11	Univ. of Oregon.....	4
Univ. of Chicago.....	11	Jefferson Med. Coll.....	4
Univ. of Illinois.....	2	Univ. of Pennsylvania.....	5
Indiana Univ.....	4	Univ. of Pittsburgh.....	1
Univ. of Louisville.....	1	Woman's Med. Coll.....	7
Tulane Univ.....	2	Med. Coll. of S. Carolina.....	1
Johns Hopkins Univ.....	8	Meharry Med. Coll.....	2
Univ. of Maryland.....	2	Univ. of Tennessee.....	2
Boston Univ.....	37	Univ. of Vermont.....	13
Harvard Med. School.....	63	Univ. of Virginia.....	1
Tufts Coll. Med. School.....	76	Marquette Univ.....	4
Univ. of Michigan.....	2	McGill Univ.....	11
Univ. of Minnesota.....	11	Univ. of Manitoba.....	1
St. Louis Univ.....	16	Univ. of Western Ontario.....	1
Washington Univ.....	4	Foreign.....	24
Total.....			770

to supplement the qualifications for promotions to the third year class. All students before entering the senior class at the New York Medical College must have taken part I of the examination of the National Board. Albany Medical College requires students to take part I and urges them to take part II. The University of Buffalo School of Medicine has required its students to pass part I since 1937. While the certificate is not required by these schools, their graduates and, in addition, those of Harvard, Tufts and Duke universities, represented the majority of those certified.

TABLE 8.—Licenses Granted on the Basis of National Board Certificates, 1940

Alabama.....	1	New Hampshire.....	13
Arizona.....	2	New Jersey.....	22
Arkansas.....	2	New Mexico.....	3
California.....	30	New York.....	191
Colorado.....	5	North Carolina.....	19
Connecticut.....	31	North Dakota.....	4
District of Columbia.....	29	Ohio.....	9
Georgia.....	2	Oklahoma.....	3
Illinois.....	33	Oregon.....	6
Indiana.....	3	Pennsylvania.....	32
Iowa.....	12	Rhode Island.....	5
Kentucky.....	3	South Carolina.....	2
Maine.....	7	South Dakota.....	2
Maryland.....	20	Tennessee.....	2
Massachusetts.....	113	Utah.....	2
Michigan.....	6	Vermont.....	14
Minnesota.....	9	Virginia.....	14
Missouri.....	2	Washington.....	11
Montana.....	2	West Virginia.....	6
Nebraska.....	1	Wyoming.....	2
Nevada.....	1	Hawaii.....	9
Total.....			696

Diplomates licensed on the basis of their credentials increased from 2 in 1917 to 696 in 1940, 6,156 having been so licensed since the National Board was formed. However, 8,207 have received the certificate of the board. In 1940 diplomates were registered on the basis of credentials in forty-one states, the District of Columbia and Hawaii. The number so registered in each state are recorded in table 8.

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SATURDAY, MAY 3, 1941

DEMAND AND SUPPLY OF PHYSICIANS

The national defense program, which contemplates the training of an army of 1,400,000 men, will require, according to the statement made by Major Swift before the Senate Committee on Military Affairs, from seven to eight thousand reserve medical officers for each of the next three or four years. Assuming, as it does, that 50 per cent of the reserve medical officers would remain on active duty at the end of each year, there would be in 1944 some three thousand fewer available than the army would require unless additional recruits are secured for the Medical Officers Reserve Corps.

In the accompanying table are shown for each of the past six years the number of graduates from the approved medical schools of the United States and the number of physicians licensed for the first time (representing actual additions to the profession).

Annual Additions to the Medical Profession

Year	Graduates of United States Schools	Total Licentiate
1935	5,101	5,510
1936	5,183	6,177
1937	5,377	6,424
1938	5,194	6,259
1939	5,089	6,044
1940	5,097	5,879
Totals	31,041	36,293
Average	5,173	6,049

The number of medical graduates has remained nearly constant. The yearly average is 5,173. The number of physicians receiving their first licenses fluctuates more widely, but the average for the six years is 6,049. The difference, approximately 850, is accounted for by the graduates of foreign schools.

Whether or not the country can continue to recruit the medical profession from the available source is uncertain. However, if the supply of physicians trained in our own medical schools should be cut off or even diminished, a serious shortage of doctors would inevitably result with consequent impairment of the health both of the military forces and of the civilian popula-

tion. Since, under the Selective Service Law of 1940, medical students are not exempt at the end of the current academic year, they will all have to be reclassified. Unless the local boards uniformly take the position that medical students are in training for an occupation necessary to the national health, many of them will be drafted into the army and in succeeding years the number of available physicians will be correspondingly decreased. The protection of the people's health is essential in any program of national defense. A well trained medical profession is the basis of all provisions for both military and civilian medical service.

MEDICAL STUDENTS AND THE
SELECTIVE SERVICE

Notwithstanding the hearings that have been held before the Senate Committee on Military Affairs and the interest taken by innumerable agencies, official action has not yet been taken which will with any certainty insure the deferment of medical students and interns from acceptable medical schools and hospitals. From time to time the Committee on Medical Preparedness of the American Medical Association has sent resolutions to officials of the United States Army and of the Selective Service, urging some positive action. Now a general memorandum has been issued by the National Headquarters of the Selective Service System, directed to all state directors. It emphasizes the fact that the proper classification of students and other registrants in training or preparation constitutes one of the major problems of the Selective Service System. Deferment of students as a group expires on July 1. Prior to that date it will be necessary for local boards to reclassify them.

The memorandum points out that the intelligent deferment of registrants and their intelligent selection as the national interest may require constitute the fundamental purpose of the Selective Training and Service Act. The regulations that have been issued provide that a registrant shall be placed in class II-A if he is found by the local board to be a necessary man in any industry, business employment, cultural pursuit, governmental service, or any other service or endeavor or in training or preparation therefor, the maintenance of which is necessary to the national health, safety or interest. Local boards, it is expected, will give proper weight to this provision in dealing with claims for deferment of necessary men engaged in training or preparation for activities necessary to the national health. The memorandum offers this definite suggestion to state directors:

Students or other registrants undergoing instruction may be deferred in class II-A by the local board where the activity for which the registrant is in training or preparation is one essential to the national health, safety, or interest, and the registrant is found to be a necessary man. The necessity of providing

the required replacements for and additions to those men deemed by local boards as being engaged in essential activities should be considered by local boards in making their determination in individual cases. In determining whether or not a student is a necessary man within the provisions of paragraph 351, the local board should give due consideration to such factors as the length of time which the student has been pursuing the course in question, his relative progress and standing in such course, and his relative chances for employment or placement in the activity for which he is preparing. This latter factor may be evidenced by contracts of employment or other reasonable assurance that the registrant will engage in an essential activity.

The period of deferment in class II-A may not exceed six months but such deferment may be renewed from time to time if the local board finds that such continuance is justified under the regulations.

In a supplementary memorandum, all state directors have been further advised as follows:

Among the students and other registrants now undergoing instructions will be some who on or about July 1, 1941 will have completed their course of instruction but who will then be in training or preparation for examinations held under public authority for persons desiring to be licensed in various professional and technical fields. To avoid great hardship to the registrant and in keeping with the national interest, local boards in their discretion may defer such a registrant in class II-A for a relatively short period pending such examination.

OBITUARIES OF PHYSICIANS PUBLISHED IN 1940

The number of obituaries of physicians published in *THE JOURNAL* during 1940 was 3,633, of which 3,450 were of the United States and 183 of Canada. Four died in Puerto Rico, 3 each in China and Mexico, 2 each in Italy and Hawaii, 1 each in Africa, Brazil, India and the Philippine Islands. The obituaries of 122 women physicians were published, as compared with 116 in 1939. The number of graduates of medical schools in the United States for the fiscal year ended June 30, 1940 was 5,097. Deducting the number of physicians whose obituaries were published, there was a net addition to the profession for the year of 1,647, not including physicians coming to the United States from abroad.

Ages.—The average age at death of those classified as of the United States was 66.3, as compared with 66.1 in 1939. Twenty-five physicians died between the ages of 25 and 29, 41 between 30 and 34, 62 between 35 and 39, 91 between 40 and 44, 131 between 45 and 49, 208 between 50 and 54, 349 between 55 and 59, 500 between 60 and 64, 592 between 65 and 69, 523 between 70 and 74, 397 between 75 and 79, 312 between 80 and 84, 147 between 85 and 89, 59 between 90 and 94, 10 between 95 and 100 and 3 were 100 or more.

Causes.—Heart disease was again the leading cause of death, as it has been for many years. Some contributory causes are also included in the tabulation as they have been in former years. For example, when a report of the cause of death gave chronic nephritis

and heart disease, it was published as such in *THE JOURNAL* and was reported on the statistical charts under both diseases. Thus heart disease was reported as a cause of death in 1,515 cases. Coronary thrombosis or coronary occlusion was specified in 641 cases, endocarditis or myocarditis in 357, angina pectoris in 50 and pericarditis in 1. Other diseases of the heart caused 466 deaths. Arteriosclerosis was the second most frequent cause, with 431. Cerebral hemorrhage was the third most frequent cause reported with 358 deaths; 16 additional deaths were reported as due to paralysis. Fourth on the list was cancer with 343 deaths; the prostate gland was reported affected in 60 cases, the stomach and liver in 58, the intestine in 34, the female genital organs in 4, the buccal cavity in 1; in 186 cases the part affected was not specified. Pneumonia was reported as the cause of death in 253 cases, of which 91 were specified as bronchopneumonia. Nephritis was the cause in 124 cases. The number of cases in which hypertension was reported was 123, embolism and thrombosis exclusive of coronary thrombosis 122, diabetes 75, uremia 75 and other diseases of the genitourinary system 62, tuberculosis 62 and other diseases of the respiratory system 14, cirrhosis of the liver 51 and other diseases of the liver 6, diseases of the prostate other than cancer 43, senility 26, ulcer of the stomach and duodenum 25 and other diseases of the stomach 4, leukemia 21, influenza and intestinal obstruction 19 each, arthritis and hemorrhage 18 each, edema 17, brain tumor 16, peritonitis 15, appendicitis and septicemia 14 each, other diseases of the digestive system 12, gangrene, cholecystitis and aneurysm 10 each, abscess of the lung, asthma, hernia and paralysis agitans 9 each, pernicious anemia and meningitis 8 each, other diseases of the spinal cord 2, biliary calculi and abscess 6 each, benign tumors, alcoholism, multiple sclerosis and esophageal varix 5 each, bronchitis, diverticulosis, encephalomalacia and streptococcic infection 4 each, amyotrophic lateral sclerosis, cerebral sclerosis, diseases of the veins, diverticulitis, empyema, encephalitis, myasthenia gravis and typhus 3 each, brain abscess, epilepsy, emphysema, hemolytic anemia, mastoiditis, pleurisy, poliomyelitis, shock and typhoid 2 each. Other diseases causing 1 death each included Addison's disease, amebiasis, anaphylactic shock, aplastic anemia, bacillary dysentery, biliary cirrhosis, carbuncle, cerebral edema, chronic dilatation of the esophagus, encephalomyelitis, erysipelas, exhaustion, exposure and starvation, gas bacillus infection, goiter, granulocytopenia, Hodgkin's disease, infection of the hand, infectious jaundice, Laënnec's cirrhosis, lateral sclerosis, locomotor ataxia, malaria, manic depressive psychosis, neuronitis, osteomyelitis, paresis, pellagra, perinephric abscess, periostitis, petrositis, progressive muscular atrophy, pulmonary cyst, pulmonary infarct, purpura haemorrhagica, pyloric

obstruction, ruptured aorta, ruptured esophagus due to hiccup, ruptured spleen, infected tonsils, spontaneous subarachnoid hemorrhage and tumor of lung.

Accidental Deaths.—One hundred and seventy-three physicians died as the result of accidents in 1940, compared with 159 in the previous year. Automobile accidents accounted for 105 deaths, falls 24, drowning 5, burns 3, airplane accidents, illuminating gas, overdoses of medicine and shooting 2 each, train accident and cut artery 1 each. In 18 cases unexplained fractures were given as causes of death. One physician was killed during a machine gun attack on a missionary station in North Africa; 1 swallowed a chicken bone; 1 died of injuries received when he dived into shallow water; 1 was suffocated when a mattress caught fire; 1 was killed when his horse was struck by an automobile; 1 died of a broken back, and 1 was injured when his gun exploded.

Suicides and Homicides.—Suicide was the cause of 65 deaths in 1940. Bullet wounds accounted for 31 of these deaths, hanging 9, poison 6, cut artery 5, overdose of medicine 3, gas 3, drowning, stabbing and injection of unknown drug 1 each. In 5 cases the method was not reported. In addition, there were 14 cases which could not be classified because of insufficient information, for which the following causes were given: bullet wounds 5, overdose of medicine and morphine poisoning 2 each, cut artery, poison and carbon monoxide 1 each. In 2 cases the method was not reported. There were 4 homicides.

Civil Positions.—Among the decedents were 223 physicians who were or had been teachers in medical schools, 370 who had served in the World War, 75 veterans of the Spanish American War and 10 veterans of the Civil War. One hundred and fifty-seven were or had been health officers, 98 members of boards of education, 62 members of boards of health and 20 members of state boards of medical examiners. There were 63 who were or had been coroners, 42 mayors, 41 authors, 32 bank presidents, 31 members of state legislatures, 21 editors, 11 missionaries, 10 police surgeons, 9 pharmacists, 9 postmasters, 8 members of city councils, 6 clergymen, 5 dentists, 3 lawyers, 2 judges, 2 justices of the peace. One had served as U. S. minister to Panama and Portugal and 1 had been aide to Governor Lehman of New York and to President Roosevelt when he was governor of New York. There were 23 physicians who had served in the U. S. Navy, 20 in the U. S. Public Health Service, 14 in the Veterans Administration, 12 in the U. S. Army Medical Corps and 3 in the Indian Medical Service.

Association Officers.—Among those who died who were or had been officers of the American Medical Association were 2 presidents, 1 vice president, 1 treasurer, 6 section officers, 3 members of councils and 2 trustees. Fifty-two members or former mem-

bers of the House of Delegates died during the year. There were also 35 presidents or former presidents of state medical associations and 6 secretaries. Two chairmen of state military preparedness committees died.

Current Comment

THE U. S. GOVERNMENT VERSUS A. M. A.—NEXT STEP

On May 2 attorneys for the American Medical Association are scheduled to submit to the District Court three motions together with argument. The motions are: 1. A motion to set aside the verdict of guilty and to enter judgment in favor of the two corporate defendants. 2. A motion in arrest of judgment. 3. A motion for a new trial. No doubt the court will take these motions under advisement with a view to handing down the decision at a later date.

INTERNSHIPS AT COOK COUNTY HOSPITAL, CHICAGO

Until recently the internships at Cook County Hospital were limited to residents of Cook County who were graduates of medical schools in Chicago. By action of the Civil Service Commission the residence requirement has recently been waived and consequently the internships of the County Hospital are now open to graduates of approved medical schools in any part of the country. Cook County Hospital, the largest general hospital in the United States, has a capacity of 3,300 beds and 225 bassinets. In 1940 the admissions totaled 81,154, births 4,818, average daily census 3,108 and outpatient visits 255,724. The hospital, which is currently approved for intern training and residencies in communicable diseases, medicine, obstetrics, ophthalmology, otolaryngology, orthopedic surgery, pathology, pediatrics, psychiatry, radiology and surgery, has a house staff of one hundred and two interns and approximately ninety resident physicians. The internship is a rotating service of eighteen months in which each intern has a progressive assignment of six months as junior in medicine and surgery, six months as middler in specialties and six months as senior in the medical and surgical divisions. Thirty-four interns enter the hospital on January 1 and July 1 of each year. General maintenance, including uniforms, is furnished without stipend. Candidates for appointment are required to take a one day written competitive civil service examination covering medicine, surgery, obstetrics and laboratory subjects. Students may procure application blanks through the office of the dean of their medical school. The blanks will be sent to all approved schools before the end of the current college session. Requests for further information should be sent to Dr. Marshall Davison, Medical Director, Cook County Hospital, Chicago. This new regulation should be instrumental in advancing the quality of the internship, as it will broaden the intellectual horizons of young men associated in this large institution in the future.

MEDICAL PREPAREDNESS

In this section of The Journal each week will appear official notices by the Committee on Medical Preparedness of the American Medical Association, announcements by the Surgeon Generals of the Army, Navy and Public Health Service, and other governmental agencies dealing with medical preparedness, and such other information and announcements as will be useful to the medical profession.

MINIMUM PSYCHIATRIC INSPECTION

MEDICAL CIRCULAR NO. 1—REVISED

Selective Service System, Washington, D. C., May 1941.

The purpose of this circular is to present to physicians of Selective Service, the great majority of whom are not psychiatrists by profession, methods whereby they may suspect the existence of incapacitating mental and personality factors in registrants coming before them and may either eliminate such individuals or refer them to the psychiatrist of the medical advisory board for examination.

The military forces can use persons with many varieties of temperament and experience, but there is no place in an efficient army for the psychopath, the feeble-minded or the insane. Many persons so unfortunately affected may do quite well in civil life, in accustomed jobs and in familiar circumstances, but when they are introduced into the unfamiliar environment of military life, with its necessary regimentation, close contact with other persons, separation from their families and inability to escape without fear of grave penalties, they develop various types of mental disorder. These individuals then become a source of trouble to their superiors, exert a deleterious influence on their associates and occupy a disproportionate amount of hospital space. The experience of the World War showed that mental disorder in soldiers was one of the main problems present both in the United States and in the Expeditionary Forces.

The selecting out of the mentally unfit should begin at the time the candidate appears for the local board physical examination. In many instances the registrant and his circumstances will be known to the board members and physicians, belonging as they do to the same community, and this knowledge should assist greatly in reaching a wise decision as to his acceptance or rejection. Pertinent information may be obtained from various charitable and welfare agencies in the community.

The following minimum psychiatric inspection revises the original plan offered Selective Service Headquarters by the William Alanson White Psychiatric Foundation to conform with War Department, Surgeon General's Office Circular Letter No. 19, March 12, 1941.

A MINIMUM PSYCHIATRIC INSPECTION OF REGISTRANTS

Mental or personality difficulties are revealed in the person's performances with other people who have come to mean something to him. Strangers may be met with an effective protective mask, a conventional manner. The examiner is a stranger unless and until he has overcome this reserve. This approach to the registrant can seldom be achieved by a show of force or authority. A pose of artificial friendliness is also unfortunate. The most successful approach is often one of straightforward professional inquiry coupled with real respect for the registrant's personality and due consideration for his feelings—which does not mean diffidence.

Whenever possible, the psychiatric examination should be made outside of easy hearing of other men. Matter of diagnostic significance is often concealed when the registrant feels that he must be impersonal and give replies that will not impress listeners with his peculiarity.

Questioning should begin with something that is obviously relevant to the immediate situation. One tries to elicit the difficulties which the registrant has been experiencing in his relations with others and with himself in his work and in his spare-time activities. The questioning might, for example, be

somewhat as follows: The registrant being a machinist whose left index finger is badly scarred, the examiner asks how the injury occurred. There may follow a question as to just what job he has been doing; how many others are similarly employed in the shop; is it a pretty good crowd; does he like the work; is the employer fair? Have they treated him right; if not, secure details. What does he do with his spare time? With whom? Sociable, or prefers his own company? Try to discover how he is esteemed by his intimates; respected or otherwise. Is he self-reliant, sure of himself or diffident, uncertain, chronically perplexed about something, shy? With men, with women or both? If anything at all unusual comes to light, pursue the topic until it is understood. Has the registrant gotten into any bad habits? Did he "break them"? Can he, e. g., stop smoking whenever he wishes? Is he ashamed of his "weakness"? Has he a low opinion of himself and, if so, why? What do his friends think of him? Does he like the idea of being trained for the national defense? The examiner pays close attention to content and implication of everything said and to any other clues, and in a matter of fact manner follows up whatever is not self-evidently commonplace.

The examination is directed toward detecting any one of eight categories of handicap. The probable presence of some of these can often be detected by observing the registrant's behavior. In other cases one would not be able to suspect the presence of any morbid condition without some knowledge of the person's history. In the following summary the first three types of ailment are detectable, as a rule, only on the basis of the history, except in cases of decided feeble-mindedness. The last two types, however, may often be suspected as a result of alert observation, if the observer knows what to look for and what to regard as significant.

It must not be supposed that any of the various kinds of behavior or items of personal history described in the following summary are absolutely and definitely diagnostic of anything in every case. The items are to be regarded as suggestive, often highly and importantly so, of the presence of the morbid condition indicated. It is possible that the presence of the behavior or the item of history in some particular individual may have little diagnostic significance. When the examining physician is in doubt, he should refer the registrant to the medical advisory board for further examination.

GROUP I. Mental defect or deficiency is suggested by slowness or stupidity in complying with clear instructions. The school record often reveals poor learning ability. The registrant may show lack of general information concerning native environment; inability to reason, to calculate, to plan, to construct, and the like; defect in judgment, foresight, language, output of effort; suggestibility, untidiness, lack of personal cleanliness, muscular awkwardness. The occupational history often shows a low level of employment, shifting jobs and an inability to hold positions which require responsibility and initiative. The psychiatrist of the medical advisory board will make or arrange for a psychometric test, if required.

GROUP II. Besides those who are deficient in intelligence, there are persons of average intelligence who are more or less incapable of profiting from experience. Again and again such a person has proved unreliable and disappointing to friends and family. The life history shows evidence of recurrent difficulties at home, at school and at work. He is unable to respond in an

adult social manner to the demands of honesty, truthfulness, decency and consideration of his fellows; is egocentric, impatient in demands for immediate gratifications without real regard for the future; may be a habitual liar and may have a criminal record. He may talk well, but his record shows that he has been undependable and has habitually evaded responsibilities. He has always been deflected from his goals by rebuffs and disappointments. He is inadapted to employment or to enduring group life and is wholly disqualified for any form of national service. Such an individual has a psychopathic personality.

GROUP III. Major abnormalities of mood are shown by episodes of unreasonable elation or depression which have tended to recur without obvious connection with events. People who are known to be so mercurial in mood that their judgment is seriously impaired during the up or down swing of their moods should be rejected. Registrants known to have received medical or nursing care because of a morbid excitement or a depression should be rejected.

GROUP IV. Psychoneurotic disorders are a more difficult diagnostic problem. The signs and symptoms fall more or less clearly into one or another of three major categories—the hysterical, whose physical signs and symptoms, often so dramatic that they may seem fraudulent, do not follow anatomically understandable patterns; the morbidly anxious, made up of various signs and symptoms of fear; and the obsessional, which include such varied conditions as hypochondriacal states (pre-occupational with one's ill health), morbid fears (phobias) and rituals of action and thought which they feel compelled to carry out.

These conditions are likely to escape notice unless one is particularly looking for them. Circumstances which might suggest the possible existence of such conditions are as follows: The hysterical individual is eager to make known his physical ailment and is apt to tell of miraculous, last-minute escapes from impending death—e. g., he tells of abdominal cramps that "nearly killed him," of a heart attack in which he was "nearly a goner," and so on. The morbidly anxious individual, as a reaction to being examined, may show unusual sweating, obviously not due to being overheated, tremors or a pulse rate indicating undue excitement. The obsessional individual may show insistence, usually in a somewhat embarrassed manner, on performing some simple act in an unusual way or in answering a question in a peculiarly circumstantial or indecisive fashion.

For purposes of classification, there are to be placed in this group persons showing the so-called psychosomatic disorders, mental or personality difficulties chiefly characterized by signs and symptoms of systemic disease—respiratory, gastrointestinal, cardiac, genitourinary or dermatologic. These include many cases of asthma, urticaria, "neurasthenic states," neurocirculatory asthenia, "effort syndrome" or disordered action of the heart, paroxysmal tachycardia, gastric hyperacidity, pylorospasm, gastric and duodenal ulceration, spastic constipation and diarrhea, mucous colitis, impotence, urinary urgency or frequency, and incontinence of semen. Look for a clear relationship in the history of attacks coinciding with periods of personal stress, and of improvement with separations from the accustomed stressful surroundings. These conditions sometimes appear early in the course of prepsychotic states discussed under group V.

GROUP V. The fifth category comprises the grave mental or personality handicaps. Prepsychotic and postpsychotic personalities and those actually suffering a schizophrenic ("dementia praecox") mental disorder manifest their condition by obscurely motivated peculiarities of behavior and thought. Of these, the so-called deteriorated states are the most obvious. Here belong the numerous shiftless, untidy, perhaps morose, sometimes nomadic individuals who had what was regarded as quite a normal childhood. Somewhere between the ages of 12 and 25 they underwent a change, acute or insidious, with dilapidation of their social interests and the habits in which they had been trained. They may or may not have received treatment in a hospital for mental diseases.

The paranoid personalities are another large division. These people cling to fantastic beliefs in their overweening importance and often feel that people are persecuting them or otherwise

interfering with their career or well-being. Some of them believe that they are in communion with supernatural beings. Others believe that they are victims of plots, secret organizations, spy rings or religious or fraternal groups. They are often quite plausible in supporting these delusions by clever misinterpretation of facts. Some of them are very evasive and skilful at concealing the pattern of their disorder. A morbid suspiciousness of any one who takes an interest in them is frequent. They may become tense and hateful when interrogated. An attitude of unusual cautiousness or suspiciousness toward the examining physician, toward others in the local board office or toward fellow-registrants should suggest the possibility that the person may be paranoid.

The catatonic and prepsychotic states may present great difficulty in diagnosis. Perhaps the only obvious sign of these conditions is the impression of queerness which the person makes on any one who seeks to get acquainted with him. The actual oddities of behavior or thought may be subtle; it may be difficult, in retrospect, to point to any particular instances of the unusual. The most striking signs of these conditions may, in fact, come out in connection with the physical examination. The physician, at some stage of the physical examination, may observe a peculiar reaction which on questioning may awaken a suspicion of a prepsychotic state. These individuals frequently entertain unfounded convictions as to bodily peculiarities or disorders which they attribute to excessive sexual acts of one sort or another. These beliefs, sometimes hard to elicit, are often medically incredible and bizarre. Questioning them on intimate personal matters often leads to great embarrassment, confused speech or actual blocking of thought, so that they do not know what to say.

GROUP VI. Chronic inebriety may be either addiction to narcotic drugs or chronic alcoholism. A registrant is to be regarded as a drug addict if he is or has recently been a habitual user of any of the opium preparations, cocaine or cannabis indica (marihuana). Recent needle marks are suggestive; scars from the needle, abscesses on the arms, shoulders, buttocks or thighs are important, but are not always present. No diagnostic weight can be placed on the condition of the pupils. The use of heroin is most common among city gangsters.

A registrant will be regarded as a chronic alcoholic addict if he habitually or recurrently used alcohol to the point of social disablement as evidenced by loss of jobs, repeated arrests or a verified history of either repeated hospital treatment for acute alcoholic intoxication or institutional care because of chronic alcoholism.

GROUP VII. Any form of syphilis of the central nervous system is disqualifying. Look for the early signs such as pupillary changes, differences in the activity of the deep reflexes on the two sides, absence of knee and ankle jerks, tremors of hands, tongue and face, and speech defect, rather than for fully developed clinical pictures, and refer all suspected cases for full serologic study, including examination of spinal fluid.

GROUP VIII. Any active, existent organic disease of the brain, spinal cord or peripheral nerves is disqualifying. After-effects of such diseases are not disqualifying if they do not prevent satisfactory fulfillment of military duties, unless the disease is likely to recur. The epilepsies and epileptic equivalents are often overlooked.

Inquire for fainting spells, fits, convulsions, spasms, falling-out spells. There may be a history of continued bromide, phenobarbital or dilantin medication. Look for scars on the tongue and scalp. The personality type is not diagnostic but the epileptic individual may be egocentric, selfish, rigid and irritable with a tendency to excessive religiosity. A history of epileptic equivalents taking the form of temper tantrums, dazed reactions, confused states and excitements may be obtained.

Early signs and symptoms of the following conditions should be kept in mind:

Diseases of the brain:

- The epilepsies and epileptic equivalents.
- Postencephalitic syndromes.
- Multiple sclerosis.
- Cerebral vascular disease and residuals.
- Brain tumor.
- Chronic degenerative diseases.

Diseases of the spinal cord:

- Poliomyelitis.
- Tumor.
- Amyotrophic lateral sclerosis and progressive muscular atrophy.
- Subacute combined degeneration.
- Syringomyelia.

Diseases of the peripheral nerves:

- Injuries.
- Neuralgias.
- Multiple neuritis.
- Cranial nerve disease:
- Optic atrophy.

Ophthalmoplegia.

Facial palsy.

Deafness due to intracranial pathologic conditions.

The local examining physician should request the reference to a medical advisory board of any registrant whose mental or nervous fitness or unfitness he cannot definitely determine. Registrants who manifest any of the following deviations should be referred to the advisory board psychiatrist: instability, seclusiveness, sulkiness, sluggishness, discontent, lonesomeness, depression, shyness, suspicion, overboistrousness, timidity, sleeplessness, lack of initiative and ambition, personal uncleanness, stupidity, dulness, resentfulness to discipline, nocturnal incontinence, sleep walking, recognized queerness, suicidal tendencies either bona fide or not, and homosexual proclivities.

ARMY RESERVE OFFICERS ORDERED TO ACTIVE DUTY

FIRST CORPS AREA

The following additional medical reserve corps officers have been ordered to extended active duty by the Commanding General, First Corps Area, which comprises the states of Maine, Vermont, New Hampshire, Rhode Island, Massachusetts and Connecticut:

ABODELLY, Robert A., 1st Lieut., Worcester, Mass., Fort Devens, Mass.
HAINES, Hilton D., Captain, Greenwich, Conn., Fort Devens, Mass.
KNAPP, Allen H., 1st Lieut., Calais, Me., Camp Edwards, Mass.
MANGIONE, Bernard J., Captain, Fall River, Mass., Fort Devens, Mass.

SECOND CORPS AREA

The following additional medical reserve corps officers have been ordered to active duty by the Commanding General, Second Corps Area, which comprises the states of New York, New Jersey and Delaware:

ADLER, Howard E., 1st Lieut., New York, Fort Benning, Ga.
BERKOWITZ, Joseph J., Captain, New York, Fort Bragg, N. C.
BREZIN, David, 1st Lieut., New York, Fort Bragg, N. C.
BRUNDAGE, Donald W., 1st Lieut., Binghamton, N. Y., Pine Camp, N. Y.
BURGER, Harold, 1st Lieut., Bronx, N. Y., Fort Bragg, N. C.
CIOFALO, Frank I., Captain, New York, Fort Benning, Ga.
CLAYMAN, Sigmund J., 1st Lieut., Forest Hills, L. I., N. Y., Camp Blanding, Fla.
CLYNE, Irving M., 1st Lieut., Far Rockaway, N. Y., Fort Monmouth, N. J.
COSTA, Joseph A., 1st Lieut., Bedford Hills, N. Y., Fort Jackson, S. C.
COYLE, Francis R., Captain, Buffalo, Pine Camp, N. Y.
DeGRACE, Francis H., 1st Lieut., Passaic, N. J., Camp Claiborne, La.
DERMON, Harry, 1st Lieut., New York, Camp Claiborne, La.
DEUTSCH, Nathan S., 1st Lieut., Plainfield, N. J., Fort Bragg, N. C.
DURYEA, Lyman C., 1st Lieut., New York, Pine Camp, N. Y.
ELKIND, Mortimer M., 1st Lieut., Brooklyn, Camp Croft, S. C.
FEITELL, Arthur, 1st Lieut., New York, Camp Livingston, La.
FINKEL, Milton M., 1st Lieut., Brooklyn, Camp Shelby, Miss.
FLICKER, David Jr., 1st Lieut., Kearney, N. J., Camp Blanding, Fla.
FRIEDMAN, Herbert S., 1st Lieut., New York, Fort Benning, Ga.
GALLER, Herman F., 1st Lieut., Brooklyn, Camp Claiborne, La.
GASNER, Walter G., 1st Lieut., Mount Vernon, N. Y., Mitchel Field, N. Y.
GILBERTSON, Robert L., 1st Lieut., Morrison, N. J., Pine Camp, N. Y.
GOLDBERG, Joseph D., 1st Lieut., New York, Fort Moultrie, S. C.
GURNEE, Quinby D., 1st Lieut., Hawthorne, N. J., Fort Monmouth, N. J.
JAMES, John T., 1st Lieut., Princeton, N. J., Fort Dix, N. J.

FOURTH CORPS AREA

The following additional medical reserve corps officers have been ordered to active duty by the Commanding General, Fourth Corps Area, which comprises the states of Tennessee, North Carolina, South Carolina, Alabama, Georgia, Mississippi, Florida and Louisiana:

BENNETT, William M., Captain, Ruffin, S. C., Camp Wheeler, Ga.
EVANS, John W., Jr., 1st Lieut., Bells, Tenn., Camp Wheeler, Ga.
FINKELSTEIN, David J., Captain, Ridgeland, S. C., Fort McClellan, Ala.
HALL, James T., 1st Lieut., Memphis, Tenn., Camp Croft, S. C.
HOUSE, Nathaniel C., 1st Lieut., Belzoni, Miss., Mississippi Selective Service, Jackson, Miss.
IRWIN, Winston H., 1st Lieut., Birmingham, Ala., Fort Bragg, N. C.
JAMES, Lemuel P., Jr., 1st Lieut., Soperton, Ga., Fort Benning, Ga.
JOHNSON, Pearce S., 1st Lieut., New Orleans, Fort Oglethorpe, Ga.
JONES, Craig S., 1st Lieut., Cliffside, N. C., Camp Croft, S. C.
KOPFLER, Marion E., 1st Lieut., New Orleans, Camp Shelby, Miss.

NEWTON, Louis, 1st Lieut., Bridgeport, Conn., Fort Devens, Mass.
ODDY, John G., 1st Lieut., Lawrence, Mass., Fort Devens, Mass.
POWELL, Platt R., 1st Lieut., Milton, Vt., Camp Edwards, Mass.
RYNARD, William M. W., 1st Lieut., Stamford, Conn., Fort Devens, Mass.
SELESNICK, Sydney, 1st Lieut., East Milton, Mass., Fort Devens, Mass.
SNEIDMAN, George I., Captain, Hartford, Conn., Fort Devens, Mass.
WIESNER, Ernest E., 1st Lieut., Brockton, Mass., Fort Devens, Mass.
WHITNEY, Royal A., 1st Lieut., White River Junction, Vt., Fort Devens, Mass.
YOUNG, Morris N., Captain, Lawrence, Mass., Fort Devens, Mass.

JOHNSON, Wallace M., 1st Lieut., Newark, N. J., Fort Benning, Ga.
KALAMARIDES, John J., 1st Lieut., Brooklyn, Fort Jackson, S. C.
KNOPF, Albert A., 1st Lieut., Jackson Heights, N. Y., Camp Stewart, Ga.
KRAKOWER, Irving, 1st Lieut., Brooklyn, Camp Blanding, Fla.
LEARN, Marshall L., 1st Lieut., Hamburg, N. Y., Camp Shelby, Miss.
LERNER, David L., 1st Lieut., New York, Camp Claiborne, La.
LOEB, Edward A., 1st Lieut., Atlantic City, N. J., Camp Blanding, Fla.
LONGWORTH, Edmund F., 1st Lieut., Pelham, N. Y., Camp Forrest, Tenn.
MACKENZIE, Locke L., 1st Lieut., New York, Fort Benning, Ga.
MAHONEY, Cornelius A., 1st Lieut., Forest Hills, N. Y., Camp Claiborne, La.
MAYERS, Albert N., 1st Lieut., New York, U. S. Army Recruiting Office, Albany, N. Y.
MINER, Walter A., 1st Lieut., Baldwin, L. I., N. Y., Camp Livingston, La.
MUSHABAC, Irving R., 1st Lieut., Bronx, N. Y., Camp Croft, S. C.
NIGHTINGALE, Arthur B., 1st Lieut., New Hyde Park, N. Y., Camp Livingston, La.
RACHLIN, Irving H., 1st Lieut., New York, Camp Shelby, Miss.
RAVITS, Everett C., 1st Lieut., Fairlawn, N. J., Fort Monmouth, N. J.
ROSENBERG, Harold W., 1st Lieut., New York, Camp Blanding, Fla.
ROTH, Daniel B., 1st Lieut., Bronx, N. Y., Fort Benning, Ga.
RUBIN, William, 1st Lieut., New Brunswick, N. J., Camp Claiborne, La.
SAFIR, Samuel S., 1st Lieut., Jackson Heights, N. Y., Camp Blanding, Fla.
SAMUEL, Jerome H., 1st Lieut., Newark, N. J., Fort Dix, N. J.
SATULSKY, Emanuel M., 1st Lieut., Elizabeth, N. J., Pine Camp, N. Y.
SCHULTZ, Jacob P., 1st Lieut., New York, Camp Shelby, Miss.
SHAPERO, Edward B., 1st Lieut., Brooklyn, Pine Camp, N. Y.
STEINREICH, Otto S., 1st Lieut., Newark, N. J., Fort Bragg, N. C.
WELTCHER, Herbert, 1st Lieut., Elizabeth, N. J., Camp Claiborne, La.
WILLIAMS, George D., 1st Lieut., New York, Fort Bragg, N. C.
ZUKAUCKAS, Edward W., 1st Lieut., Brooklyn, Fort Dix, N. J.

MARCHBANKS, Vance H., Jr., 1st Lieut., Tuskegee, Ala., Fort Bragg, N. C.
MARTIN, Robert B., III, 1st Lieut., Cuthbert, Ga., Fort Oglethorpe, Ga.
MASTERSON, Rodney G., 1st Lieut., Alexandria, La., Camp Polk, La.
McLAURIN, James W., 1st Lieut., Baton Rouge, La., Fort Bragg, N. C.
McTURNAN, Robert W., 1st Lieut., Tampa, Fla., Stark General Hospital, Charleston, S. C.
PARSONS, Hugh E., 1st Lieut., Tampa, Fla., Camp Shelby, Miss.
ROWELL, John P., 1st Lieut., St. Petersburg, Fla., Fort Bragg, N. C.
STEGALL, Oscar B., 1st Lieut., Memphis, Tenn., Camp Wheeler, Ga.
STRONG, Robert A., Colonel, New Orleans, Headquarters 3d Military Area, New Orleans.
VAN HOOSER, John L., 1st Lieut., Smithville, Tenn., Fort Benning, Ga.
WAGNER, Rudolph T., 1st Lieut., Miami Beach, Fla., Fort Oglethorpe, Ga.
WARD, Thomas G., Captain, Thibodaux, La., Camp Wheeler, Ga.
WEAVER, Thomas S., 1st Lieut., Nashville, Tenn., Fort Bragg, N. C.
WORLEY, James H., 1st Lieut., Asheville, N. C., Fort Benning, Ga.
WRIGHT, Leonard D., 1st Lieut., Memphis, Tenn., Camp Claiborne, La.

SEVENTH CORPS AREA

The following additional medical reserve corps officers have been ordered to extended active duty by the Commanding General, Seventh Corps Area, which comprises the states of North Dakota, South Dakota, Minnesota, Nebraska, Iowa, Kansas, Missouri, Arkansas and Wyoming:

ANDERSON, Martin Frederick, 1st Lieut., Hastings, Neb., Carlisle Barracks, Pa. (1 Mo.) then to 42d Evacuation Hospital, Fort Leonard Wood, Mo.
ANDREWS, William Wallace, Jr., 1st Lieut., Kansas City, Kan., 4th Cavalry Brigade, Fort Riley, Kan.
ARBuckle, Millard Fillmore, Lieut. Col., St. Louis, Fort Leonard Wood, Mo.
BESS, George Calvin, Captain, St. Louis, 41st Division, Camp Murray, Wash.
BOLLER, Galen Charles, 1st Lieut., Traer, Iowa, Carlisle Barracks, Pa. (1 Mo.) then to 43d Engineers, Camp J. T. Robinson, Ark.
CAMPBELL, Louis Scott, 1st Lieut., Scottsbluff, Neb., 41st Division, Camp Murray, Wash.
CAPETTI, Alexander Pasquale, 1st Lieut., Crane, Mo., Fort Des Moines, Iowa.
CHALLED, Don Sheridan, 1st Lieut., Cedar Rapids, Iowa, 1st Medical Regiment, Fort Ord, Calif.
CORNELL, Dale Duane, 1st Lieut., Greenfield, Iowa, 41st Division, Camp Murray, Wash.
DOMINICK, DeWitt, 1st Lieut., Cody, Wyo., Carlisle Barracks, Pa. (1 Mo.) then to 74th Surgical Hospital, Fort Francis E. Warren, Wyo.
DONOHUE, Edmund Stephen, 1st Lieut., Sioux City, Iowa, Engineer Replacement Center Infirmary, Fort Leonard Wood, Mo.
DREYER, William Francis, 1st Lieut., Webster Groves, Mo., Camp J. P. Robinson, Ark.
ELKINS, Ronald Flagg, 1st Lieut., Springfield, Mo., Fort Leonard Wood, Mo.
EVANS, Arthur Wilbur, 1st Lieut., Norton, Kan., Fort Leonard Wood, Mo.
FERGUSON, James Taylor, Jr., 1st Lieut., Kansas City, Mo., Fort Snelling, Minn.
FINNEY, Charles Herman, 1st Lieut., Fort Smith, Ark., Fort Snelling, Minn.
GALEOTA, William Richard, 1st Lieut., Maryville, Mo., Fort Snelling, Minn.
GAY, Ellery Clarke, Captain, Little Rock, Ark., C. A. S. C. Station Hospital, Fort Leonard Wood, Mo.
GILSDORF, Amos Ray, 1st Lieut., Dickinson, N. D., Fort Leonard Wood, Mo.
HAMILTON, Caldwell Kiskaddon, 1st Lieut., St. Louis, Mo., Fort Crook, Neb.
HANKINS, Charles Robert, 1st Lieut., Omaha, Engineer Replacement Center Infirmary, Fort Leonard Wood, Mo.
HELLEWELL, Joseph Spencer, 1st Lieut., Evanston, Wyo., 217th General Hospital, Fort Riley, Kan.
HENRICH, Melvin Celsus, 1st Lieut., Riverton, Wyo., Fort Francis E. Warren, Wyo.
HOFFMAN, Jacob Samuel, 1st Lieut., Kansas City, Mo., Jefferson Barracks, Mo.
HOMAN, Richard William, 1st Lieut., Fort Meade, S. D., Fort Francis E. Warren, Wyo.
HYATT, Robert Fee, 1st Lieut., Monticello, Ark., 3d Cavalry Brigade, Fort Riley, Kan.
HYNDMAN, Henry Harold, 1st Lieut., Wichita, Kan., 3d Cavalry Brigade, Fort Riley, Kan.
KANE, Thomas Edward, 1st Lieut., Boone, Iowa, C. A. S. C. Station Hospital, Fort Leonard Wood, Mo.

KING, Jack Arthur, 1st Lieut., Elaine, Ark., Reception Center, Jefferson Barracks, Mo.
KNOLL, Albert Henry, Captain, Dubuque, Iowa, 41st Division, Camp Murray, Wash.
KOZBERG, Oscar, 1st Lieut., Moose Lake, Minn., Camp J. T. Robinson, Ark.
LINDBLOM, Alton Edwin, 1st Lieut., Minneapolis, Fort Crook, Neb.
MACK, Marvin Arnold, 1st Lieut., Crete, Neb., 35th Division, Camp J. T. Robinson, Ark.
MALLES, Albert Conrad, 1st Lieut., Lewisville, Ark., Engineer Replacement Center Infirmary, Fort Leonard Wood, Mo.
MARTIN, Lee Fred, 1st Lieut., Talmage, Neb., Engineer Replacement Center Infirmary, Fort Leonard Wood, Mo.
MATER, Dwight Albert, 1st Lieut., Knoxville, Iowa, Induction Station, Jefferson Barracks, Mo.
McDOWELL, Edward Alphonso, 1st Lieut., St. Louis, 4th Cavalry Brigade, Fort Riley, Kan.
McKINSTRY, Karl Virgil, 1st Lieut., DeSoto, Mo., 3d Cavalry Brigade, Fort Riley, Kan.
MOLLERS, Theodore Peter, 1st Lieut., Mountain Iron, Minn., Camp J. T. Robinson, Ark.
MURRAY, Robert Anthony, Captain, Aitkin, Minn., Engineer Replacement Center Infirmary, Fort Leonard Wood, Mo.
NEUMAIER, Arthur, 1st Lieut., Lindstrom, Minn., 4th Armored Division, Pine Camp, Watertown, N. Y.
NIERLING, Richard DePuy, 1st Lieut., Jamestown, N. D., Jefferson Barracks, Mo.
NOONAN, William Joseph, 1st Lieut., Minneapolis, Fort Leonard Wood, Mo.
OMEYLA, Patrick Maynard, 1st Lieut., Sioux City, Iowa, 1st Medical Regiment, Fort Ord, Calif.
PALLETT, Harold Anthony, 1st Lieut., Kansas City, Mo., C. A. S. C. Station Hospital, Fort Leonard Wood, Mo.
PLATOU, Ralph Victor, 1st Lieut., Minneapolis, C. A. S. C. Station Hospital, Fort Leonard Wood, Mo.
PUTZ, Arthur Eugene, Captain, Edgewood, Iowa, Engineer Replacement Center Infirmary, Fort Leonard Wood, Mo.
REID, James Armand, 1st Lieut., Kansas City, Kan., Fort Leavenworth, Kan.
RICHARDSON, Lyman King, Captain, Kansas City, Kan., Fort Leonard Wood, Mo.
ROSENTHAL, Leonard George, Captain, St. Louis, C. A. S. C. Station Hospital, Jefferson Barracks, Mo.
RUSSELL, Allen Rutledge, 1st Lieut., Pine Bluff, Ark., C. A. S. C. Station Hospital, Fort Riley, Kan.
SATTERFIELD, Benjamin W., 1st Lieut., St. Louis, 4th Cavalry Brigade, Fort Riley, Kan.
SAXE, Earl, 1st Lieut., Topcka, Kan., Jefferson Barracks, Mo.
SCANNELL, Raymond Christopher, 1st Lieut., Carroll, Iowa, Engineer Replacement Center Infirmary, Fort Leonard Wood, Mo.
SHARPE, Don Carlyle, 1st Lieut., Dubuque, Iowa, Engineer Replacement Center Infirmary, Fort Leonard Wood, Mo.
SHERRILL, Sion Frederick, 1st Lieut., Belle Fourche, S. D., 41st Division, Camp Murray, Wash.
SMITH, James Albert, 1st Lieut., Cedar Rapids, Iowa, Engineer Replacement Center Infirmary, Fort Leonard Wood, Mo.
SNYDER, Glen Edgar, 1st Lieut., Grimes, Iowa, Carlisle Barracks, Pa. (1 Mo.) then to 214th General Hospital, Camp J. T. Robinson, Ark.
STEELE, Hugh Henderson, 1st Lieut., Deadwood, S. D., Carlisle Barracks, Pa. (1 Mo.) then to 214th General Hospital, Camp J. T. Robinson, Ark.
STRAUS, Maurice Lockhart, 1st Lieut., St. Paul, Minn., 41st Division, Camp Murray, Wash.
SWAILS, John Goldsborough, 1st Lieut., Wathena, Kan., Carlisle Barracks, Pa. (1 Mo.) then to 217th General Hospital, Fort Riley, Kan.
THORNELL, Harold Edgar (Negro), Captain, St. Louis, 4th Cavalry Brigade, Fort Riley, Kan.

EIGHTH CORPS AREA

The following additional medical reserve corps officers have been ordered to extended active duty by the Commanding General, Eighth Corps Area, which comprises the states of Colorado, Arizona, New Mexico, Oklahoma and Texas:

ADAMS, Richard Martin, 1st Lieut., Tulsa, Okla., Camp Wallace, Texas.
ANDERSON, Vetalis Vernon, 1st Lieut., Del Norte, Colo., 200th Coast Artillery, (AA) Fort Bliss, Texas.
ATKINS, Paul N., Jr., 1st Lieut., Muskogee, Okla., 52d Signal Battalion, Fort Sam Houston, Texas.
BASS, James W., Major, Dallas, Texas, 2d Division, Fort Sam Houston, Texas.
BELL, Robert H., Major, Columbus, Texas, Station Hospital, Camp Wallace, Texas.
BRADFORD, Sidney W., 1st Lieut., Tyler, Texas, 2d Division, Fort Sam Houston, Texas.
CARRITHERS, Clem Milburn, 1st Lieut., Bruni, Texas, 36th Division, Camp Bowie, Texas.
BOX, Otho N., Jr., 1st Lieut., Grandfield, Okla., 36th Division, Camp Bowie, Texas.
COHEN, Edmond F., 1st Lieut., Denver, Station Hospital, Fort Bliss, Texas.
COX, Arlo K., 1st Lieut., Watonga, Okla., 36th Division, Camp Bowie, Texas.
CRANE, Francis S., 1st Lieut., Wilburton, Okla., 1st Cavalry, Fort Bliss, Texas.
CULLYFORD, James S., 1st Lieut., Denver, Corps Area Laboratory, Fort Sam Houston, Texas.

DONOVAN, Mark Hamilton, 1st Lieut., Oklahoma City, Station Hospital, Fort Sill, Okla.
HARRIS, Gracchus, Jr., 1st Lieut., Navasota, Texas, 2d Division, Fort Sam Houston, Texas.
KELLY, Marcus G., 1st Lieut., Phoenix, Ariz., 2d Division, Fort Sam Houston, Texas.
LINDSEY, Ray Harvey, 1st Lieut., Pauls Valley, Okla., Camp Wallace, Texas.
MARTIN, John Dennis, 1st Lieut., Clint, Texas, Ellington Field, Texas.
MAYS, Alan Lanning, 1st Lieut., Sterling, Colo., Station Hospital, Fort Bliss, Texas.
ROBERTSON, David Lyle, 1st Lieut., Wichita Falls, Texas, Station Hospital, Camp Wallace, Texas.
RYAN, William Emmett, Captain, Midland, Texas, 2d Division, Fort Sam Houston, Texas.
SARZUNE, Benjamin, 1st Lieut., Eunice, N. M., 1st Cavalry Division, Fort Bliss, Texas.
SHERMAN, Joseph Harrison, 1st Lieut., Denver, Colo., 113th Cavalry, Camp Bowie, Texas.
SIPTAK, John E., 1st Lieut., Caldwell, Texas, 36th Division, Camp Bowie, Texas.
WALKER, John Hicks, 1st Lieut., Muskogee, Okla., Station Hospital, Fort Sill, Okla.
WILCOX, Melvin Rae, Jr., 1st Lieut., Jacksonville, Texas, Ellington Field, Texas.
WILLIAMS, Harold Murphy, 1st Lieut., Fort Worth, Texas, Camp Wallace, Texas.
WOODS, Haddon Benjamin, Captain, Refugio, Texas, 265th Coast Artillery, Fort Crockett, Texas.

NAVAL RESERVE OFFICERS ON ACTIVE DUTY

The following medical officers of the U. S. Naval Reserve have reported for active duty since March 17:

ARNOLD, Walter F., Lieut., M. C.-V. (S.), Long Beach, Calif., Naval Hospital, Mare Island, Calif.
BEHR, Irving S., Lieut. (j. g.), M. C.-V. (G.), Belleville, N. J., Norfolk Naval Hospital, Portsmouth, Va.
CREVELLO, Albert J., Lieut. (j. g.), M. C.-V. (S.), North Warren, Pa., U. S. Naval Hospital, Philadelphia.
DE SANTO, Dominic A., Lieut., M. C.-V. (S.), New York, Naval Hospital, Brooklyn.
FURMAN, Matthew R., Lieut., M. C.-V. (G.), New York, Third Naval District, New York.
KRAFT, George L., Lieut. (j. g.), M. C.-V. (G.), San Juan, P. R., 10th Naval District, San Juan, P. R.
MILAM, Ernest B., Lieut. Comdr., M. C.-V. (S.), Jacksonville, Fla., Naval Air Station, Jacksonville, Fla.

SELECTIONS FOR PROMOTION IN
THE NAVY

A Naval Medical Corps Selection Board has made recommendations for promotion as vacancies occur of forty-two lieutenants to the grade of lieutenant commander and fifty-one lieutenants (junior grade) to the grade of lieutenant, and the recommendations of the board have been approved by President Roosevelt. The Navy Medical Selection Board, of which Capt. Richard A. Warner, M. C., U. S. Navy, was president, selected the following officers for promotion:

LIEUTENANTS TO LIEUTENANT COMMANDER

Irving J. Warmolts	Warren E. Klein
Otto L. Burton	Norris M. Hardisty
Louis E. Gilje	Cameron L. Hogan
O. Henry Alexander	Gerard B. Creagh
Herman A. Gross	Anselm C. Hohn
Edward S. Lowe	Thomas Q. Harbourn
Robert J. Vaughn	James G. Neff
Frank P. Gilmore	Craig B. Johnson
Paul Vaughan	Clarence L. Blew
Oscar D. Yarbrough	Herbert G. Shepler
Carr E. Bentel	William P. Stephens
James D. Boone	Jack R. George
Warren G. Wieand	Ferrell H. Johnson
Albert R. Behnke Jr.	Edward C. Kenney
Omar J. Brown	John D. Foley
George W. Dickinson	Garland A. Gray
John R. Weissner	Benjamin N. Ahl
Kenneth H. Vinnedge	Charles M. Parker
Milton R. Wirthlin	James R. Sayers
Thenton D. Boaz	William C. Baty Jr.
William L. Berkley	Wade S. Rizk

LIEUTENANTS (J. G.) TO LIEUTENANTS

John F. McMullin	Philip J. McNamara
James B. Shuler	Edward E. Hogan
John F. Foertner	Merrill H. Goodwin
Gordon M. Perisho	LeRoy J. Barnes
Jerome F. Smith	Landes H. Bell
Robert S. Poos	Thomas J. Canty
Francis L. Phillips	Clifford P. Phoebus
John L. Hatch	Richard W. Garrity
Charles F. LeComte	Russell H. Walker
Gordon K. Lambert	William S. Francis
Walter Welham	Ellwood V. Boger
Herbert H. Eighmy	Shakeeb Ede
Richard R. Rall	Charles F. Gell
Thomas F. Woodward	Alexander S. Angel
Stephen J. Ryan	Samuel J. Wisler
James G. Bulgrin	Joseph A. Syslo
Emmanuel Rollins	Nicholas E. Dobos
Roy R. Powell	Arthur L. Lawler
Murray W. Ballenger	Charles F. McCaffrey
Clark J. Jeffers	Alfred L. Smith
Thomas P. Connelly	Marion E. Roubush
Marion T. Yates	Edward Patrick McLarny
Marshall Cohen	Earle E. Metcalfe
Eugene P. Harris	Jefferson Davis
Harold R. Berk	Joseph M. Hanner
Walter R. Miller	

AVIATION MEDICAL EXAMINERS

A routine course of instruction to qualify medical officers for duty as Aviation Medical Examiners began at the School of Aviation Medicine, Randolph Field, Texas, April 14. The course will continue for six weeks. The names of the officers enrolled, with the stations to which they are assigned, follow:

AUERBACH, Sidney, 1st Lieut., M. C. R., Fort Jackson, S. C.
BENNETT, Bruce H., 1st Lieut., M. C. R., Mitchel Field, N. Y.
BOSWORTH, Joseph M., Jr., Captain, M. C., Florida N. G., Camp Blanding, Fla.
CRAWFORD, Walter J., 1st Lieut., M. C. R., Camp Shelby, Miss.
DANIELS, John Q. A., Captain, M. C. R., McChord Field, Wash.
DICKINSON, Louis E., 1st Lieut., M. C. R., Fort Douglas, Utah.

MILLER, Julius Y., Lieut. (j. g.), M. C.-V. (G.), Chelsea, Mass., Naval Training Station, Newport, R. I.
PORTER, Joseph I., Lieut. Comdr., M. C.-V. (G.), Benicia, Calif., 2d Marine Division, Marine Corps Base, San Diego, Calif.
RABSON, Salem M., Lieut. Comdr., M. C.-V. (S.), New York, Naval Hospital, Brooklyn
ROSENBERG, Irving G., Lieut. (j. g.), M. C.-V. (S.), Long Beach, Calif., Naval Dispensary, Long Beach, Calif.
SLAGLE, Thomas D., Lieut., M. C.-V. (S.), San Juan, P. R., 10th Naval District, San Juan, P. R.
SULLIVAN, Daniel F., Jr., Lieut., M. C.-V. (S.), Woodland, Calif., Naval Dispensary, Long Beach, Calif.
WEST, Walter B., Lieut., M. C.-V. (S.), Fort Worth, Texas, Naval Air Station, Corpus Christi, Texas.
WILLIAMS, Richard J., Lieut. (j. g.), M. C.-V. (G.), Cumberland, Md., Destroyer Division 21.

DOMINICK, John F., 1st Lieut., M. C. R., Randolph Field, Texas.
DRUMMOND, N. Robert, 1st Lieut., M. C. R., Randolph Field, Texas.
DUDNEY, Lester R., 1st Lieut., M. C. R., Randolph Field, Texas.
ENGELHARDT, David M., 1st Lieut., M. C. R., Allan Hancock College of Aeronautics, Santa Maria, Calif.
EPSTEIN, Ernest D., 1st Lieut., M. C. R., Chanute Field, Ill.
ERDEL, Milton W., Captain, M. C. R., Fort Benning, Ga.
ESTES, Woodrow B., 1st Lieut., M. C. R., MacDill Field, Fla.
FERRIS, James W., Captain, M. C. R., Camp Livingston, La.
FLEMING, Frank R., Captain, M. C. R., Fort Jackson, S. C.
FLORETH, Nelson K., 1st Lieut., M. C. R., Camp Beauregard, La.
FOSTER, Furman L., 1st Lieut., M. C. R., Randolph Field, Texas.
FRENCH, James B., 1st Lieut., M. C. R., Randolph Field, Texas.
GIFFORD, Byron L., Captain, M. C. R., Camp Murray, Wash.
GORDON, Devitt L., 1st Lieut., M. C. R., Patterson Field, Ohio.
GRAYSON, Morris, 1st Lieut., M. C. R., Langley Field, Va.
HELLAMS, Alfred A., 1st Lieut., M. C. R., Fort Sam Houston, Texas.
HENRY, Lewis M., Captain, M. C. R., Fort Sill, Okla.
HOLTZ, Paul R., Major, M. C. R., Fort Leavenworth, Kan.
HOWE, George E., 1st Lieut., M. C. R., Headquarters 6th Corps Area, Chicago.
KELLY, Delbert C., 1st Lieut., M. C. R., Selfridge Field, Mich.
KING, James T., 1st Lieut., M. C. R., Barksdale Field, La.
KNAPP, Howard C., Captain, M. C. R., Fort Sam Houston, Texas.
KOSSMANN, C. E., 1st Lieut., M. C. R., Randolph Field, Texas.
LASKY, Mortimer, Major, M. C., New York N. G., Madison Barracks, N. Y.
LIPIN, Raymond J., 1st Lieut., M. C. R., Langley Field, Va.
LOWREY, Robert W., 1st Lieut., M. C. R., Brooks Field, Texas.
LUCAS, Richard A., 1st Lieut., M. C. R., Louisiana N. G., New Orleans.
MAGRUDER, Roger G., Captain, M. C. R., Langley Field, Va.
MENDEL, Charles L., 1st Lieut., M. C. R., Randolph Field, Texas.
POMERANCE, Joseph B., Captain, M. C. R., Camp Beauregard, La.
POPELAR, Melville V., Captain, M. C. R., Fort Sill, Okla.
RICKLES, George Abraham, 1st Lieut., M. C. R., McChord Field, Wash.
SANDERS, Zal H., 1st Lieut., M. C. R., Scott Field, Ill.
SARFATY, Isaac J., Captain, M. C. R., Milwaukee.
SELIGMAN, Ewing, Captain, M. C. R., Camp Shelby, Miss.
SMITH, Tom J., 1st Lieut., M. C. R., Scott Field, Ill.
THOMPSON, Roger S., Captain, M. C. R., Camp Murray, Wash.
TILDEN, James F., 1st Lieut., M. C. R., Fort Sam Houston, Texas.
WALDOCK, James L., Captain, M. C. R., Fort Benning, Ga.
WHITE, Fletcher H., 1st Lieut., M. C. R., Mitchel Field, N. Y.

ADVISORY BOARD FOR SELECTIVE
SERVICE

A medical advisory council has been created to cooperate with national headquarters of the Selective Service system on problems connected with the physical examinations of registrants, it was announced March 31. Members of the council are:

Dr. Francis X. McGovern, Washington, D. C., chairman of the executive board of the Medical Society of the District of Columbia.
Dr. Henry C. Macatee, Washington, D. C., past president of the District society.

Dr. Thomas S. Cullen, professor emeritus of gynecology, Johns Hopkins University School of Medicine, Baltimore, and a Trustee of the American Medical Association.

Dr. Harvey B. Stone, associate professor of surgery at Johns Hopkins.

Dr. Robert A. Bier, secretary of the Medical Advisory Council and liaison officer between the council and national headquarters, Selective Service system.

Mr. Theodore Wiprud, executive secretary of the District society.

The purpose of the council is to provide liaison between national headquarters of the Selective Service system, the American Medical Association and the medical profession at large and to acquaint them with the medical needs for the most effective administration of the Selective Service system. A primary need is the obtaining of suitable medical personnel for the examination of registrants. At the first meeting of the council, April 1, various proposed plans for the correction of physical defects of rejected registrants were considered.

MEDICAL REPLACEMENT TRAINING CENTER AT CAMP GRANT, ILLINOIS

After months of preliminary work, a tremendous program of training Medical Department enlisted personnel at Camp Grant, Illinois, has been launched, and at present more than six thousand Medical Department trainees are undergoing intensive training. During the coming year about thirty thousand enlisted men will be trained there. Each training period covers thirteen weeks in the replacement center. After receiving training, which is mostly basic in character, the trainees will be assigned to field medical organizations and fixed hospitals in camps elsewhere.

Construction of the replacement training center is complete and about two hundred and fifty buildings of semipermanent type are now in use. The trainees are organized into seven battalions, two of which will train men for assignment to fixed hospitals, one for service with mobile hospitals, another for service with the Air Corps, another for service as attached medical troops and with veterinary hospitals, and two for service as army medical regiments.

Each battalion is organized into four companies, each of which has the capacity to house and train two hundred and twenty-two selectees. The training schedule provides for forty-four hours of instruction each week for the thirteen weeks period. It includes, among many other subjects, twenty-one of training in elementary anatomy and physiology, twenty hours in field sanitation, twelve hours in material medica and pharmacy, sixteen hours in medical and surgical nursing, sixty-seven hours in bandaging, dressing and splinting, eight hours in the treatment of gas casualties, ten hours in ambulance loading and litter drill, and five hours in preparation of field medical records; one hundred and twenty-two hours of unit training will complete the course.

In addition, schools for bakers and cooks, mess sergeants, clerks, chauffeurs and motor mechanics are being conducted.

At present the headquarters administrative staff consists of:

Lieut. Col. Joseph I. Martin, M. C., executive officer.
Lieut. Col. Frank E. Brundage, M. R. C., assistant executive officer.
Lieut. Col. A. B. Crane, A. G. D., adjutant.
Major John F. Bohlender, M. C., plans and training officer.
Major Lynn Dodge, M. R. C., assistant plans and training officer.
Capt. Roland B. Peck, Inf., classification officer.
First Lieut. J. B. Pierce, A. G. D., personnel officer.

The battalion commanders are:

Lieut. Col. Thomas Harold Reagan, M. C.
Lieut. Col. William Alexander Smith, M. C.
Lieut. Col. George E. Lindow, M. C.
Major Howland A. Gibson, M. C.
Major Howard S. McConkie, M. C.
Major Clement F. St. John, M. C.
Major Frederic B. Westervelt, M. C.

In addition to these officers there are approximately one hundred and seventy-five others assigned to the various companies in the center.

It is expected in the near future that a brigadier general will be assigned as commanding general of the training center.

MEDICAL SUPPLIES FOR COUNTRIES AT WAR

Medical service equipment for new clinical laboratories and hospitals throughout England has been requested by the British Red Cross in a cable forwarded by the American Red Cross to the Medical and Surgical Relief Committee of America, which has headquarters at 420 Lexington Avenue, New York. The committee is soliciting contributions of about sixty specific items, including pipets, tubes, burets, Petri dishes, dissecting needles, bottles, glass tubing and syringes. In the first quarter of 1941 this committee disclosed that contributions in cash and medical and surgical supplies received amounted to \$97,168.56. Of this amount \$79,156.67 in the form of drugs, surgical instruments and other medical supplies were shipped overseas for civilian relief among noncombatants in Great Britain and the allied countries. The committee, formerly known as the Medical and Surgical Supply Committee of America, recently changed its name to emphasize the charitable nature of its work.

INDUSTRIAL SURVEYS IN DEFENSE PROGRAM.

The Maryland State Department of Health has inaugurated a series of surveys on health and occupational hazards in industrial defense plants as part of the national defense movement in cooperation with the U. S. Public Health Service. Dr. Robert H. Flinn, Bethesda, assistant surgeon, and Harry E. Seifert, assistant public health engineer of the Public Health Service, have been assigned to supervise the work. Wherever necessary, follow-up studies will be made to determine concentrations of hazardous dusts, fumes and gases in the workroom air or other health hazards and their effects on the workers, it was reported. Special efforts will be made to provide technical advice and services to plants too small to afford medical and engineering personnel. Surveys have already been started at several plants.

CONFERENCE OF PSYCHIATRISTS

Psychiatrists connected with medical advisory and army induction boards in New York held a conference at the New York Academy of Medicine, April 5. The speakers included Col. Patrick S. Madigan, M. C., U. S. Army; Dr. Harry Stack Sullivan, president of the William Alanson White Psychiatric Foundation; Dr. Martin J. Cooley of the Veterans' Administration; Dr. Karl M. Bowman, director of the psychiatric division of Bellevue Hospital; Dr. Howard W. Potter, clinical professor of neurology and psychiatry, Long Island College of Medicine, and Col. Samuel J. Kopetzky, chief of the medical division of the New York Selective Service System.

NEW MEDICAL RELIEF COMMITTEE

Organization of the Physicians' Committee of Greater New York as a branch of the British War Relief Society was announced, April 14, following a meeting at the New York Academy of Medicine. Officers of the committee are Drs. Adolph G. G. De Sanctis, chairman; Nathan B. Van Etten, John E. Jennings, Charles Gordon Heyd, Harry P. Mencken and Herbert A. J. Cochrane, vice chairmen for the five counties in Greater New York; Benjamin Wallace Hamilton, secretary, and Kirby Dwight, treasurer.

MEDICAL TECHNOLOGISTS

A reserve of medical technologists, both men and women, is being built up by the War Department with the cooperation of the American Red Cross. As of February 1 a total of two thousand and seventy-two civilian medical technologists had been enrolled by the Red Cross as a reserve for the Army Medical Corps to supplement the several thousand enlisted medical technicians already on duty.

NEW HOSPITALS IN CANAL ZONE

Two of the largest single unit type hospitals ever built in the Panama Canal Zone have been started at Fort Clayton and Fort Gulick. Both hospitals will be fireproofed, equipped with the latest hospital accessories, and supplemented by barracks and officers' and nurses' quarters.

SYMPOSIUM ON MILITARY MEDICINE

The St. Louis Medical Society devoted its April 15 meeting to a symposium on military medicine. Organization was discussed by Dr. Fred T. Murphy, Grosse Pointe, Mich.; the surgical aspects by Dr. Malvern B. Clopton; medical, Dr. Walter Fischel, and roentgenologic, Dr. Edwin C. Ernst.

MEETING AT ARMY MEDICAL CENTER

Dr. Ferris Smith, Grand Rapids, Mich., addressed the U. S. Army Medical Department officers in Washington and vicinity at the Army Medical Center, April 21, on "An Obligation to the Soldier and to Society."

ORGANIZATION SECTION

AMERICAN MEDICAL ASSOCIATION ON TRIAL

THE TRIAL OF THE CASE OF THE UNITED STATES OF AMERICA
VS.

THE AMERICAN MEDICAL ASSOCIATION, A CORPORATION, THE MEDICAL SOCIETY OF THE DISTRICT OF COLUMBIA, A CORPORATION, THE HARRIS COUNTY MEDICAL SOCIETY, AN ASSOCIATION, THE WASHINGTON ACADEMY OF SURGERY, AN ASSOCIATION, ARTHUR CARLISLE CHRISTIE, COURSEN BAXTER CONKLIN, JAMES BAYARD GREGG CUSTIS, WILLIAM DICK CUTTER, MORRIS FISHBEIN, THOMAS ALLEN GROOVER (DECEASED), ROBERT ARTHUR HOOE, ROSCO GENUNG LELAND, THOMAS ERNEST MATTINGLY, LEON ALPHONSE MARTEL, FRANCIS XAVIER MCGOVERN, THOMAS EDWIN NEILL, EDWARD HIRAM REEDE, WILLIAM MERCER SPRIGG, WILLIAM JOSEPH STANTON, JOHN OGLE WARFIELD JR., OLIN WEST, PRENTISS WILLSON, WILLIAM CREIGHTON WOODWARD, WALLACE MASON YATER, JOSEPH ROGERS YOUNG.

(Continued from page 1975)

MARCH 26—MORNING

The Court ruled that the Dr. Trinder manuscript was inadmissible.

TESTIMONY OF DR. PRENTISS WILLSON
DIRECT EXAMINATION

By Mr. Laskey:

Prentiss Willson said he is a physician, he graduated in 1905. He is 59 years old. He graduated from Georgetown University. He was in the Army, during the last war, and in 1919 when he left the Service he specialized in obstetrics and gynecology. He is Attending Obstetrician in the Columbia Hospital for Women. He joined the District of Columbia Medical Society in 1908, and became much interested in it and its affairs shortly after that time. He was corresponding secretary for a time, served as chairman of the Committee of Censors, served several terms on the Executive Committee. He was chairman of the Executive Committee several times. He was chairman for a time of the Committee on Medical Economics of the Medical Society, some five or six years ago, and finally in 1933 was elected president of the Society and took office the first of July for the fiscal year of 1933-1934. It was the custom of the Society to elect the retiring president as a member of the Executive Committee for a term of three years. He was a member of the board of the Health Security Administration and the Medical-Dental Service Bureau, which were eleemosynary institutions which the Medical Society had a part in forming.

Q.—With reference to a change in the constitution or by-laws, what is the procedure with reference to them? A.—A member who wishes to attempt to have a constitutional change made or propose an amendment to the constitution, must propose it at a certain stated meeting, and then, under the provisions of the constitution, that proposed amendment is referred to the Executive Committee and the Executive Committee is obligated to make a report concerning it at the next ensuing stated meeting of the Society, either recommending its adoption or recommending adversely to its adoption.

Q.—What knowledge have you of Chapter 9, Article 4, Section 5? A.—As to its history in the Society?

Q.—Yes. A.—That particular amendment to the constitution which was denominated Chapter 9, Article 4, Section 5, was first proposed to the Society at the meeting in November—

Q.—Before you start on that, Doctor, would you identify it a little more particularly, with respect to its substance? It is in evidence, I understand. A.—Its substance was—its purpose, rather, I know was to afford the Society better facilities for controlling the practice of its members in relation to the Workmen's Compensation Law.

Q.—Will you proceed with its history? A.—It was first proposed before the Medical Society at the stated meeting in November, which would be the first meeting in November 1935.

THE COURT:—I imagine the jury will remember it, but I think it is well to identify its terms just in a general way so that the jury will know exactly what you are talking about.

The Witness:—If your Honor please, I can read it.

THE COURT:—Have you got it handy?

Mr. Laskey:—Yes, sir.

THE COURT:—I would like the jury to understand it. I dare say they will remember it.

Mr. Laskey:—Following your Honor's suggestion I will read to the ladies and gentlemen of the jury Section 5:

"No member of the Society shall engage in any professional capacity whatsoever with any organization, group, or individual, by whatever name called or however organized, engaged in the practice of medicine within the District of Columbia or within ten miles thereof, which has not been approved by the Society. The Executive Committee is authorized and directed to prepare an approved list of organizations, groups, and individuals, by whatever name called and however organized, engaged in the practice of medicine within the District of Columbia or within ten miles thereof, and the same shall be kept in the office of the secretary-treasurer. Before any such organization, group, or individual can be placed on the approved list of the Society, such organization, group, or individual, or the member of the Society proposing professional relations therewith shall submit to the Compensation, Contract and Industrial Medicine Committee such evidence as the Committee or the Society may require concerning the character, activities, financial condition and ethical standards of said organization, group, or individual, and after considering the same said committee shall make a report of the investigation and findings to the Executive Committee for such action as it may deem necessary."

By Mr. Laskey:

Q.—Now, with that so identified, will you please proceed to give us the history of it? A.—In its original form the amendment was proposed at the stated meeting of the Society on the first Wednesday in November 1935. Under the provisions of the constitution it was referred to the Executive Committee for report at the next stated meeting, which would be the stated meeting in January. At that time I was a member of the Executive Committee to which this proposed amendment was referred, and the amendment was given consideration in the Executive Committee and was vigorously opposed, so far as its adoption in the constitution was concerned, by a group of that committee, of which I was one, and the Executive Committee reported it to the Society at the stated meeting on the first Wednesday in January 1936 adversely. Despite that adverse recommendation of the Executive Committee the Society adopted it, so that it became a part of the constitution in January 1936, for the first time. Its proponents then realized that there was not proper machinery in the constitution to effect the purposes of the amendment which had just been adopted, and at the stated meeting of the Society in March 1936, two months after its adoption, another amendment was proposed. I cannot give you the exact chapter and article, but another amendment was proposed to the constitution to put into it machinery to make effective the provisions of the amendment which had been adopted. At the same meeting in March 1936, an ex-president of the Society, Dr. A. B. Bennett, proposed a further amendment to the constitution, to strike out Chapter 9, Article 4, Section 5, which had just been adopted two months before; and under the provisions of the constitution those two amendments were referred again to the Executive Committee. The Executive Committee met, I still being a member of it, and the matter of the attitude of the Executive Committee toward this original amendment and these two new amendments was referred to a subcommittee of the Executive Committee of three to prepare a report for the consideration of the Executive Committee to submit to the Society, with its reasons for any action it might see fit to take. That committee consisted of myself, Dr. Bennett, and Dr. Don Johnson, I believe, who had a legal degree in addition to his medical degree. The subcom-

mittee met and gave careful consideration to the two amendments, the one striking out the one that had just been adopted, and the enabling amendment to provide machinery to make it operative, and prepared a formal statement of its reasons for the position it recommended the Executive Committee taking, and recommended that the amendment to strike out Chapter 9, Article 4, Section 5, be adopted, and that the proposed amendment to provide machinery to make it operative be not adopted. That was the action of the subcommittee. The report of the subcommittee was brought to the attention of the Executive Committee and it was adopted by the Executive Committee for recommendation to the Society with a further amendment which was offered in the full committee to the effect that the whole matter, after it had adopted the recommendation of the committee that the new amendment be not adopted and the old one be stricken out again, be referred to a special committee of the Society for study during the coming summer. That special committee was to consist of the president of the Society, who was elected to take office on July 1, 1936, the chairman of the Executive Committee, the chairman of the Compensation, Contract and Industrial Medicine Committee, which you have heard mentioned, the counsellor of the Society, who was Colonel Frederick A. Fenning, and two attorneys who were in practice at the local bar. These gentlemen were nominated to the Executive Committee and the Executive Committee was to elect.

Q.—Was that done, with reference to the two attorneys?

Mr. Lewin:—We object to that, if your Honor please. It does not matter whether it was done or not. It is perfectly immaterial.

THE COURT:—Objection overruled. The witness is giving the history of the matter.

The Witness:—Following the usual constitutional procedure, this recommendation of the Executive Committee which I have just outlined to the jury was brought into a full meeting of the Society and my impression is now that it was the latter part of May, because I think that the stated meeting that year had been postponed because of the fact that the Society was holding its annual scientific session early in the month. My impression is that it was on—it doesn't make any difference, I suppose. It was brought in before a meeting of the full society in May. The action of the Society was to again overrule the recommendation of the Executive Committee in that it refused to strike out Chapter 9, Section 4, Article 5. It did adopt the new proposed amendment which was to provide machinery for its operation, but it then also adopted the suggestion of the Executive Committee that the whole matter be referred to a committee such as I have outlined, for study during the summer, and report to the Society in the fall. After the July change of office in the Society the committee was organized. It consisted of Dr. William Mercer Sprigg, ex officio as president of the Society, Dr. J. Lawn Thompson, ex officio, as chairman of the Executive Committee, Dr. R. Arthur Hooe, ex officio, as chairman of the C. C. and I. M. Committee, Colonel Frederick A. Fenning as counsellor of the Society and, under the provision of the action of the Society this group nominated Mr.—I can't give the first name—Mr. Wheatley and Mr. Flannery.

Mr. Lewin:—May I break in simply to ask the witness to fix the time. Are you not talking about the year 1936?

The Witness:—Yes, Mr. Lewin; 1936. Those nominations were made to the Executive Committee and agreed to, so that that was the personnel of the committee which was to study this whole subject. As I recall it, the subject for study was the relations of the Society to its members engaged in contract practice under the Workmen's Compensation Law, and the best method of controlling that practice to make it conform to the ethics of the local organization and the American Medical Association. The committee studied the matter during the summer.

I might say, Mr. Laskey, there—I think this is as good a place to bring it in as any—that because of serious differences of opinion in the Society and in the Executive Committee centering somewhat around this matter that I am discussing now and somewhat regarding other matters, that at the meeting of the Society on April 22, 1936 I resigned from the Executive Committee and from every other position and office I held in connection with the Society, although my resignation did not take effect until the first of the following May. I attended one meeting of the Executive Committee after that resignation. So that after the first part of May 1936, although my elective term on the Executive Committee had 14 months yet to run, the term for which I was elected, I resigned from the committee and not only from that, but from every office I held in the Society. Therefore I had nothing to do with the deliberations of this committee or with its activities or with the activities of the Executive Committee with respect to it, following the first part of May 1936.

The committee gave the matter consideration during the summer, and at the meeting of the Society in October 1936 it merely made a progress report and asked for more time to give the matter further consideration. That was granted by the Society, and at the stated meeting of the Society, as I recall it, in November 1936, the committee, the composition of which I have just given you, made its final report to the Society in which it suggested certain minor modifications in Chapter 9, Article 4, Section 5 which then had been in the constitution since the preceding January.

That report of the committee was received and given the status of the first reading of a proposed amendment, because it did make certain minor changes in the wording of Chapter 9, Article 4, Section 5. It was given the status of a proposed amendment, and at the meeting of the Medical Society, the stated meeting, in January, the matter came up. In the meantime there had been proposed, as I recall it now, some further minor modifications in the wording of the amendment, and the action of the Society was to return it to the committee, I believe, with instructions to consult the legal counsel further, and the matter finally came up before the Medical Society at the stated meeting on the first of March 1936, and it was then adopted.

By Mr. Laskey:

Q.—By the first of March, do you mean the first day of March? *A.*—I mean the first stated meeting, on the first Wednesday in March 1937.

Q.—When adopted was it in the form that I have just read to the jury? *A.*—My impression is that it was in the form that you read to the jury, and it was, so far as my understanding of its wording is concerned, the only minor modifications which had ever been introduced into that provision of the constitution which first went into the constitution of the Medical Society on the first Wednesday in January 1936, and had been in the constitution continuously for 14 months before action by the Society in March 1937. It had been in the constitution in that form for 14 months.

Q.—There was nothing done with Chapter 9, Article 4, Section 5 after its final adoption, was there? *A.*—So far as I know, it has never been touched since then. I might say, as I told the jury, I was opposed to the original amendment. I fought it in the Executive Committee. I signed every adverse report that was made concerning it. I was in favor of its being stricken out of the constitution, every time it came up. If my recollection serves me correctly there were three different occasions on which amendments were proposed to strike it out of the constitution, and I voted for approval of them, and I continued to oppose it up to the time of its final adoption in March 1937.

Q.—When did you first hear of G. H. A.? *A.*—From my own memory I cannot fix the date definitely, although it can be fixed for me in the testimony, because it was upon the occasion of the meeting in Dr. William Gerry Morgan's office to which reference has been made, if you can give me that date.

Q.—It was the last part of May, was it not?

Mr. Kelleher:—May 16, 1937?

The Witness:—May 16, 1937. To the best of my recollection and belief, that is the first occasion on which I ever heard of such an organization as the G. H. A. even being contemplated.

By Mr. Laskey:

Q.—Did the introduction of the amendment and the final passage in its present form, of Chapter 9, Article 4, Section 5, have anything to do with G. H. A.? *A.*—Obviously not, because it was in the constitution 14 months before March 1937. I never heard of the G. H. A. until May 1937. So there is almost 18 months that it was in the constitution before I ever heard of G. H. A.

Q.—Do you recall a letter introduced by Dr. Sprigg which was proposed to be sent to the hospitals, in the fall of 1937? *A.*—Very well. Dr. Sprigg first proposed sending that letter at a meeting of the Society in October, I think, around the middle of the month of October 1937.

Q.—Was it acted upon at that meeting? *A.*—It was not acted upon at that meeting, because Dr. Groover made the point that it was entirely too important a matter for the Society to take action on prior to all the members of the Society having been notified that the matter was coming up, so that anybody who was interested in it, either for or against it, might be present to express his views and to vote. And that was the action of the Society. So that the letter which Dr. Sprigg proposed sending to the boards of directors of the various local hospitals went over and became a matter on the agenda. As I recall it, it was definitely postponed for consideration until the stated meeting on the first Wednesday in November following.

By Mr. Laskey:

Q.—Did you attend that meeting on Nov. 3, 1937? A.—I certainly did.

Q.—Do you recall what you did prior to going to the meeting and how you happened to do it? A.—That is, of course, in connection with this proposed letter to the boards of directors of the various hospitals, and I should like to give the details of that to the members of the jury as clearly as I possibly can.

Mr. Laskey:—It has been suggested by Mr. Richardson that I read the Sprigg letter. I am going to ask Mr. Richardson to read it for me.

Mr. Richardson:—Dr. Sprigg read the following letter addressed to the boards of directors of the various hospitals in this city:

"The Medical Society of the District of Columbia desires to call attention to Chapter 9, Article 4, Section 5 of the constitution, as follows"—

Then follows in the letter the same section 5 which Mr. Laskey just read to the jury. Then follows this:

"Whereas the Medical Society is using its earnest efforts to give to the people of the District of Columbia the most advanced and best possible medical care, we therefore ask your cooperation by aiding us to carry out this principle. In view of the above section of the constitution of the Medical Society of the District of Columbia we hope your board will see the advisability of making such reservations in your hospital so that it may be in accord with and support our efforts."

Mr. Kelleher:—Does not that letter also quote Chapter 9, Article 4, Section 1?

Mr. Richardson:—The copy I had did not differentiate. Here is also a portion of it:

"Members shall not accept appointment to or continue to serve upon the medical staff of any hospital or dispensary which is not approved by the Society. A list of approved hospitals and dispensaries shall be available in the Society's office."

By Mr. Laskey:

Q.—Now, with respect to that letter, was it on the agenda for action on Nov. 3, 1937? A.—It was.

Q.—My last question, I think, asked you to state what, if anything, you did with respect to that meeting; what you did before you got there. A.—At that time, that is, the fall of 1937, I had office hours three afternoons a week, Mondays, Wednesdays and Fridays. It was my invariable custom, almost, to complete my office hours, so I got through late in the afternoon on Wednesday. I was living pretty well out in the suburbs, and I usually dined in town with my friend Dr. Hough whom I had known for many years and who shared my office. We used to go to Harvey's for dinner and attend the meetings of the Medical Society. On this particular Wednesday afternoon of Nov. 3, 1937 I got through with my last patient somewhat after 5 o'clock in the afternoon. In the meantime, to the best of my recollection and belief, I had even forgotten that the Sprigg letter was coming up. But when I got through with my last patient I picked up the mimeographed notice of the meeting for the Medical Society that night to see what was the business that was to come before the Society, and I read many other items that were up for discussion with the proposal of Dr. Sprigg to send this letter to the boards of directors of the various hospitals which also would come up for action, as has just been called to your attention through the reading of Chapter 9, Article 4, Section 5. The letter was calling the attention of the boards of directors to this particular provision of the constitution which, as I have testified previously, I had always been opposed to. The thought suddenly sprung into my mind, Would it be possible to take any action at the Society on this night which would prevent the sending of that letter? And I pulled a piece of scratch paper over toward me and picked up a pencil, without consulting with anybody in the world, and on the spur of the moment I scratched down this resolution which was introduced that night which has been read to you several times and which on its face shows that it was very crudely and carelessly drawn. I then may have taken that pencil draft across through my waiting room to Dr. Hough's office, which was on the other side of the office, in the same suite. I may have shown it to him. I have no distinct recollection of that. I want to be absolutely honest about it. I may have shown it to him, or I may not have shown it to him until we had dinner together that night. In any event, I had my secretary type it. It was then almost six o'clock, and I had her call Dr. Christie's office, which was two blocks from me, to see if he was still in the building, because I knew that Dr. Christie was also opposed, as I was, to the sending of that letter. I found that he was still in his office, and I walked over to 1835 I Street, two blocks from my office, and saw Dr. Christie. I asked him if he was opposed to the sending of the letter, and he said he was. I asked him if he would

second this resolution. First, I asked him if he thought the resolution as drawn might prevent the sending of the letter. He said he thought it might, and I asked him if he would be willing to second it, and he said he would. I then returned to my office and met Dr. Hough and we went to Harvey's for dinner and I went to the Medical Society that night.

At the meeting that night there was a further recommendation, among much other business, brought in from the Executive Committee which it seemed to me was proposing action along the same line as this letter; and I arose and asked if the proposal of the Executive Committee were in lieu of the proposed letter. As far as the record goes, as I have seen it, there was no answer to that question. But, in any event, I immediately proposed this resolution.

Q.—Prior to the proposing of that resolution by you at the meeting of the Society that night, what, if anything, did Dr. Stanton do? Do you remember the Stanton resolution? A.—Yes. There was a resolution introduced by Dr. Stanton, but it had nothing to do with this particular matter. That was another matter.

Q.—Proceed. A.—You want me to discuss the resolution?

Q.—Yes; proceed with the discussion of what happened there.

THE COURT:—It might be well to read enough of the resolution to identify it to the jury.

Mr. Richardson:—This is the resolution, I think, that you are testifying about, Doctor:

"WHEREAS, The Medical Society of the District of Columbia has an apparent means of hindering the successful operation of Group Health Association, Inc., if it can prevent patients and physicians in its employ from being received in the local private hospitals;

"WHEREAS, The Medical Society of the District of Columbia has no direct control over the policies of such hospitals as are determined by their lay boards of directors, except through control of its own members serving on their medical staffs; and

"WHEREAS, Conflicts between the Medical Society of the District of Columbia and any local hospital arising from an attempt to enforce the provisions of Chapter 9, Article 4, Section 5 of the constitution should be assiduously avoided if possible because of the unfavorable publicity which would accrue to its own members. "Therefore be it

Resolved, That the Hospital Committee be, and is hereby, directed to give careful study and consideration to all phases of this subject and report back to the Society at the earliest practicable date its recommendations as to the best way of bringing this question to the attention of the medical boards of directors of the various local hospitals in such manner as to obtain the maximum amount of practical accomplishment with the minimum amount of friction and conflict."

By Mr. Laskey:

Q.—What was your purpose in introducing that resolution, Dr. Willson? A.—The one purpose, solely, was to prevent, if possible, the sending of Dr. Sprigg's letter to the boards of directors of the hospitals.

Q.—Was there discussion of that resolution? A.—Oh, yes; there was considerable discussion of the resolution. The wording of the resolution was deliberately chosen—I mean to say, deliberately for anything that was done so spontaneously on the spur of the moment as this resolution was drawn—because there was a wide divergence of view within the Society as to this whole situation with respect to the G. H. A. My own personal feeling was—I may have been right or I may have been wrong—that this method of approach to the hospitals in connection with G. H. A. was inexpedient and calculated to engender friction rather than any real assistance in the problem; and the wording of the resolution was deliberately employed, as far as its "whereases" were concerned, for the sole purpose of getting enough votes to send it through the Society. The necessity for some such parliamentary tactics in the meeting is shown by the fact that the vote was quite close, 68 to 53.

Q.—Was that vote in favor of the resolution or against it? A.—In favor of the adoption of the resolution,—

Q.—All right, go ahead. A.—And the sole provision of the resolution which I wished to get over was merely to get the thing into a committee; that I felt, not being in any way connected with the policy forming duties of the Society at that time, that to my mind was the way possibly to choke the thing off, and prevent it from being sent to the hospitals.

Q.—Did it have that effect? A.—Yes, it had that effect to this extent: that the Hospital Committee took the resolution under advisement in conformity with the action of the Society, and at a meeting—what was the date, November 11, was it?

Q.—November 11, right. A.—November 11, the committee reported to the Society; there was considerable discussion and it was re-referred to the committee with instructions to consider it further; and at the next, I think, the next business meeting of the Society in December the committee finally reported. I don't even recall whether I was present at that meeting. I may have been. The action proposed finally—

Q.—Are you referring to the meeting of December 1, the first meeting of the Society in December? A.—Yes, as I said the committee reported the evening of November 11, and it was re-referred to the committee, and then on December 1 the committee made the report which was to the effect that the attention of the Boards of the hospitals, as I recall, the medical boards of the hospitals should call the attention of the Boards of Directors to what has been called, as I learned subsequently, the Mundt Resolution.

Now, may I trace my connection with that situation from that point on?

Q.—Yes. That resolution which came up on December 1, that was adopted? A.—It was adopted. As I said, I may have been there; I have no recollection of that meeting. I have a distinct recollection of the meeting of November 11.

Mr. Laskey:—Gentlemen, there is no question that that resolution was adopted on December 1.

Mr. Lewin:—No question.

Mr. Richardson:—May we read that?

THE COURT:—Yes.

Mr. Richardson:

"That as a matter of educational policy the Medical Society of the District of Columbia strongly recommends that all hospitals engaged in the teaching and training of residents, interns, and nurses, where possible, follow the recommendation of the American Medical Association regarding the constitution of their entire medical staffs, namely, that each appointee be a member of the Medical Society of the District of Columbia or a local Medical Society in this immediate neighborhood and a member of the American Medical Association."

Q.—Was there any further action with respect to your resolution which you recall? A.—None whatsoever. The only further action with which I had any connection personally was in connection with the action on this proposal which was just read, which was the final action of the Hospital Committee; that is so far as it concerned my connection with Columbia Hospital.

Q.—Doctor, do you recall a local physician by the name of Scandiffo? A.—I do.

Q.—Do you recall that his name came up before the committee with respect to charges that had been made? A.—Oh, yes, I remember all that. I had nothing to do with it. I wasn't on the Executive Committee. As I say, I had resigned from everything in connection with the Society, from all the committees, just retained my membership, but I knew that he was charged by the Society and tried by the Executive Committee, and the recommendation of the Executive Committee was that he be expelled, and that came up at the Society meeting.

Q.—Were you at that meeting? A.—At which the matter I have just referred to came up?

Q.—Yes. A.—I was.

Q.—What was the recommendation? A.—The recommendation of the Executive Committee was that he was guilty of the charges and the recommendation was that he be expelled from the Society.

Q.—Do you recall with what he was charged? A.—He was charged with having violated Chapter IX, Article IV, Section 5, and also two or three other charges of violations of certain provisions of the Constitution.

Q.—Do you recall whether they were sections 1 and 2 of Article III of that Chapter IX? A.—I couldn't recall at all from my own recollection what the numbers were.

Q.—Well, do you recall what in substance those charges against Dr. Scandiffo were? A.—My recollection is that one of them involved a violation of the code of ethics of the American Medical Association, in that he had contracted to give his services under circumstances under which he could not render good service. I believe that was one.

Q.—Do you recall anything about the requirements that a physician file his contract with the Society? A.—Yes, that was the other one; that he had failed to file his contract with the Society, the C. C. & I. N. Committee, as required by the Constitution. Yes, I remember that now.

Q.—Did you know Dr. Scandiffo prior to that? A.—I imagine that some years ago I met Dr. Scandiffo, but even at that time I had no recollection of him individually, and I doubt if he came in this courtroom now I would recognize him.

Q.—How did you vote on that matter? A.—I voted reluctantly for his expulsion.

Q.—You say "reluctantly"; why do you say that? A.—Because I felt it was incumbent on the Society to protect itself, and to set an example. It had adopted a constitution. Its members had applied for membership voluntarily in the Society and had voluntarily obligated themselves to obey the provisions of the constitution; and while I didn't like the provisions of Chapter IX, Article IV, Section 5, he had violated that and violated

other provisions of the constitution, as far as I could determine from the report of the Executive Committee and, as I say, with reluctance, I voted for his expulsion.

Q.—As a result of that action of the committee what, if any, effect has that had upon your permitting Dr. Scandiffo to attend children, babies, whom you delivered in Columbia Hospital, whose mothers were his patients? A.—Dr. Scandiffo is a pediatrician and he was associated personally with a very intimate friend of mine, who was one of the leading pediatricians here in Washington for a good many years; and while I didn't know Dr. Scandiffo very well, he had been a pupil of mine at Georgetown and had been, as far as my knowledge went, well trained and, as I say, he had been associated with this very distinguished pediatrician for some years, and at the time this whole business was boiling in the Medical Society I had from the very beginning many patients in my private practice who were members of G. H. A.—and that was from the very beginning of G. H. A. down to the present time—and on several occasions during that period patients of mine in the hospital would say they would like to have Dr. Scandiffo see their babies and I invariably told them that so far as I was concerned he was a competent and able pediatrician and I had no objection to him seeing them, their babies, if he wished, and he did, as a matter of fact, see babies of several patients of mine on several occasions.

Q.—When you say he did "see" them, what do you mean? Do you mean he just viewed them or treated them professionally? A.—I am using that in a medical sense; technical sense. When a physician sees a patient, as was the case with Dr. Scandiffo, he does so for the purpose of taking charge of the patient. The sooner I get rid of them, the babies after they are born, the better I am pleased.

Q.—Was that the close of your contact with the Scandiffo incident? A.—Yes.

Q.—What was your connection with Columbia Hospital in the years 1937 and 1938, that is the Columbia Hospital for Women? A.—My official title was Attending Surgeon. There are eight attending surgeons, four of whom have a surgical service on women, and four of whom are attending obstetricians, and I was one of the latter, and, as such, a member of the Medical Board of the hospital.

Q.—What classifications of surgical medical services did they have there at Columbia at that time? A.—You mean with respect to the qualifications on the courtesy staff?

Q.—Yes. A.—You see, they had an attending staff which was constituted as I have indicated, plus the fact that they had a pathologist and a senior anesthetist and an attending pediatrician, to take charge of the nursery; and, in addition, they had a courtesy staff, and the courtesy staff was classified in three categories, three groups—one, two and three.

Class 1, individuals who had privileges to practice in the hospital on the courtesy staff who were entitled to do any operative procedure they wished in gynecology. That is any particular surgical treatment of women for diseases peculiar to women.

Q.—Does that classification include the most serious operations? A.—It includes everything, everything connected with surgery on the organs peculiar to women.

The second qualification was major obstetrics, which meant that that individual who had such privileges to practice in that class was entitled to do a craniotomy for instance, or destroy the unborn baby, and remove the uterus at the same time. In other words, he could do anything to take care of a woman in labor.

And the third classification; class 3, members of the courtesy staff who enjoyed privileges under class 3, were permitted to come into the hospital to handle women in labor as long as the labor was progressing normally and satisfactorily. However, if the labor were too much prolonged or delayed, or hemorrhage or convulsions, or any complications developed, then that individual was required to have consultation, and it was the duty of the staff of the hospital—I mean the attending obstetricians and their associates—to provide that consultation for them, and free of charge to the patient if the patient was unable to pay for it. Those were the three classifications.

Q.—Do you recall Dr. Selders' application for courtesy staff privileges at Columbia Hospital? A.—Oh, yes, I recall the fact that he applied. I would like to say before I start discussing the matter that, of course, that is some years ago, and I have tried to refresh my memory from the minutes of the Medical Board of Columbia Hospital, but I think I will be in agreement with counsel when I say they are in a hopeless mess. There is very little I could get out of them. I welcome the opportunity to discuss Dr. Selders' application from start to

finish, but I doubt if I can pin it down to definite dates. I would be very glad to have counsel point out to me any error I may make in that connection.

Q.—Irrespective of the date, you recall the application having been made to that hospital by Dr. Selders? A.—Yes, very well.

Q.—Will you please state what, if anything, you had to do with that application? A.—Dr. Selders, if my recollection is correct, and I am sure it is, Dr. Selders applied to Columbia Hospital for the privilege of doing general surgery, major gynecology, major obstetrics and normal obstetrics. In other words he applied for privileges in classes 1, 2 and 3, you see, and, in addition to that, he packed on the application to do general surgery in the hospital, which meant he could take out a brain tumor or do a thyroid, or operate for an empyema in the chest; anything. Now, Columbia Hospital does not have on its staff of the hospital anything corresponding to my position: I mean it has no general surgery, you see. There are general surgeons who can practice there, but they are on our consulting staff. In other words, we have a consulting staff of general surgery and in the event a patient for whom the hospital is responsible, is in the ward, developed, for instance, an empyema from pneumonia, following childbirth, and we haven't our own, then we would call in a consultant because we wouldn't know about it, it not being in our line; so Dr. Selders applied for the whole works: 1, 2, 3—everything—and as far as I know there isn't any such animal existing in the United States; they just don't come; and the action of the Board was, however, to give consideration to the application.

Now, as an obstetrician and gynecologist I wouldn't set myself up as competent to determine the ability of a man to do general surgery; I do not know enough about it to even gage his ability from the credentials he presents and, for instance if he said he was or had been attending such and such a clinic, unless it was say the Mayo, with which I happen to have some knowledge—I probably wouldn't even know enough about the standing of the clinic he referred to, to intelligently pass on it; so the application as regards general surgery, despite the fact that we didn't have any such individual on our staff, was referred to the Washington Academy of Surgery for the guidance of us as to what his qualifications were.

Then, the question of his ability to do major gynecology was something that modestly I think I have some ability to gage. However, that was referred also to the Washington Gynecology Society for an advisory committee in the same way we had referred the surgery application to the Washington Academy of Surgery, because it was our custom to do that even when we felt competent to examine credentials on that point. The net result of it was that the Academy of Surgery advised us adversely as to his qualifications in general surgery. The Washington Gynecology Society advised us adversely as to his qualifications to do major obstetrics and gynecology, which was in accordance with the opinion of the Medical Board, as to those qualifications; and since he had applied for all three groups, the Board, which only acts in an advisory committee—the directors, the board of directors can put anybody on there it pleases—advised the board of directors against granting of the privileges desired. That, I recall, was the action of the board.

Q.—After Judge Bailey's decision in the Group Health case in July 1938 was an application of Dr. Selders for courtesy privileges at Columbia Hospital for Women renewed? A.—Well, I couldn't time it exactly as to just when it was renewed. I do happen to know, and furthermore my impression is that the application was received from the Group Health Association rather than Dr. Selders; that is my impression now.

Q.—In respect to your action on the second application, you may proceed. A.—As I say, I don't recall just when it was, and my recollection may be wrong, but I think that the renewal application came directly from some authority in G. H. A. I don't think it came from Dr. Selders direct.

Q.—Mr. Kelleher informs me that it was on Sept. 2, 1938 Dr. Selders wrote to Mr. Ashburn, the superintendent. A.—Was it Dr. Selders? It seems to me that there was some correspondence directly from some official of G. H. A. regarding the application, but the gist of it was that they then considered that this application should be treated separately for each group; they wanted to consider each class separately; and I saw something in the minutes of the medical board where the matter came up at a meeting in September 1938 and there was a motion made before the medical board that Dr. Selders' application for privileges 1 and 3—that was the motion as it appears in the minutes, be considered; that would be major gynecology and minor obstetrics, that is normal obstetrics, and would leave out major obstetrics; and the motion was made

that it be considered; and it was recommended adversely to the Board of Directors. Thereupon, I moved that the Board of Directors be advised that the medical staff didn't think it advisable to act on the application at that time, and by a divided vote that recommendation or motion prevailed. The recommendation was sent to the Board of Directors. The Board of Directors acceded to it, and the net result was that Dr. Selders was permitted privileges pending final disposition of it and, pending that period, he was permitted to handle normal obstetrics in the hospital.

My position with respect to that matter was this. I remember very distinctly when that second application came before the Board, I said to the Medical Board this: I said there isn't any question in my mind but that this man is not competent to do general surgery in this hospital, but that is out; and I equally convinced that he has not shown any evidence that he should be granted the privilege of doing major gynecology, or to handle desperate cases of childbirth, but were he a member of the Medical Society of the District of Columbia you would grant him privileges or at least recommend him for privileges in Class 3—

Q.—Being what? A.—Normal obstetrics, and, in my judgment,—I have absolutely this recollection, of taking this position,—in my judgment, this situation should be handled in the same way. These men on G. H. A. should not be admitted to practice in any hospital, including this one, if they cannot show they possess the qualifications which entitle them so to do, the same as other men in or out of the Society; and, incidentally, at the very time Dr. Selders' application was before the hospital board at Columbia we turned down a much more competently trained man who was a member of the District Medical Society, and the Board of Directors sent the application back to us under pressure from members of Congress and various high officials, and the Medical Board stuck to its guns and refused to alter its position; and that man was a member in good standing in the Medical Society of the District of Columbia. But that is a diversion. My opinion was that none of these men should be admitted to staff privileges unless qualified to do the work for which they apply; that the same test should be applied to them as to any other man who makes application, but if they were qualified the fact that they were on the staff of G. H. A. should make no difference; that the board should take a position comparable to the one as related by Dr. Macatee was taken at Garfield. They should either be admitted to practice pending the outcome of the question of legality of G. H. A. or they should be kept out of the hospital altogether; and I think I was right about that.

Q.—Now, in respect to the claim of members of G. H. A. to have their complaints and illnesses treated in the hospital by a G. H. A. physician: how, at all, does that vary from the right of any citizen of the District of Columbia, not a member of G. H. A., to go into a hospital in which he has not courtesy staff privileges and there treat a patient? A.—Well, of course, that I think is one of the most outstanding examples of the way this G. H. A. group—I am not referring to their medical staff now; I am referring to the crowd that had the thing in control and who were going to ride roughshod over the situation in Washington in connection with the hospitals; because there isn't a member of this jury who if taken ill tonight could call up a hospital and get in there and be treated by a physician of their choice unless that physician is admitted to courtesy staff privileges in that hospital, but the G. H. A. organization proceeded to take the position that because an individual was a member of G. H. A. they were different and they were entitled to have a privilege denied to every other citizen in the District of Columbia; it boils right down to that.

Q.—What privilege is that to which you refer? A.—The privilege of calling a hospital and saying "Dr. Blank is my physician, and I want to get in there and he is going to take a tumor out tomorrow," and the hospital would have nothing to say whether the doctor was competent to do it or whether the patient was committing hari-kari.

Q.—What was the final action on Dr. Selders' application, if you recall? A.—I recall no action after that action taken in September 1938. I know that Dr. Selders did attend some normal obstetrical cases in the hospital.

Q.—Dr. Willson, did you, at any time, engage in an unlawful combination and conspiracy with any of your co-defendants or with any other person, organization or society, to undertake to restrain trade in the District of Columbia, in violation of the Sherman Anti-trust Act? A.—I did not, and I never contacted anybody in the American Medical Association in this matter in the period covered by the indictment, on that subject or any other; and, so far as my co-defendants are concerned,

with two or three of them I discussed the matter casually from time to time, but I never did more. I was out of office, held no office in the Society; out of any responsible committees, and any conversation I had with any of my co-defendants was in the way of disagreement with some of the steps which were being taken.

Q.—Dr. Willson, you know who your co-defendants are, do you not? A.—Well, I don't know whether I can name them all, but I recognize them.

Q.—I don't want to repeat the names: you may not be able to repeat the names, but you knew all of the co-defendants, individuals and societies, and associations? A.—All of them.

Q.—Now, I want to ask you whether you at any time combined and conspired with your co-defendants, or with any member of the Medical Society of the District of Columbia, not named as defendants, or with any person or persons to the grand jury known or unknown, to restrain trade in the District of Columbia; that is to say, for the purpose of restraining Group Health Association, Inc. in its business of arranging for the provision of medical care and hospitalization to its members and their dependents on a risk-sharing prepayment basis? A.—I never did; never took any action concerning G. H. A.

Q.—Or for the purpose of restraining the members of Group Health Association, Inc. in obtaining by cooperative effort adequate medical care for themselves and their dependents from doctors engaged in Group Health medical practice on a risk-sharing prepayment basis? A.—Never did.

Q.—Or for the purpose of restraining the doctors serving on the medical staff of said Group Health Association, Inc., in the pursuit of their calling? A.—I never did.

Q.—Or for the purpose of restraining doctors not on the medical staff of Group Health Association, Inc., practicing in the District of Columbia, including the doctors so practicing who are made defendants herein in pursuit of their calling? A.—I never did.

Q.—Or for the purpose of restraining the Washington hospitals in the business of operating said hospitals? A.—I never did.

Q.—Dr. Willson, did the Columbia Hospital have any rule or regulation requiring all members on its staff, either regular or special, to be members of the Medical Society of the District of Columbia? A.—Mr. Laskey, as far as my knowledge goes, they never had any such rule until—the only thing I know in that connection about Columbia Hospital is this: that following the final recommendation of the hospital committee, as a result of my motion of November, the secretary sent a communication to the hospitals calling their attention to what I now know as and recognized as the Mundt Resolution of the House of Delegates of the American Medical Association.

Now, the record of the minutes of the Medical Board of the hospitals shows that that matter came up before a meeting of the Medical Board on March 10. I don't know why it was so long getting there, but the minutes of the Medical Board show that on March 10, Dr. Crowley, who is not a defendant here, and who is a member of our staff, moved that the Medical Board recommend to the Board of Directors that it adopt this policy, which was in the Mundt resolution. The Board of Directors evidently received that recommendation and sent back a request to the Medical Board that it rescind that recommendation, and that, according to my best recollection and as refreshed from the minutes, came up before the Medical Board of Columbia Hospital at its meeting of March 28 or 30, 1938, that would be—yes, the action was December 1937: yes, that is right, March 28-30, 1938, and the record in the minutes show that Dr. Willson moves that the Medical Board rescind that, and that action was taken.

CROSS EXAMINATION

By Mr. Lewin:

Q.—I am having difficulty getting all these hospital documents in order, so I may have to proceed rather slowly. Dr. Willson, do you know about the efforts of the defendant Dr. Cutter to get your hospital to adopt and observe what you later learned was the Mundt Resolution in November 1937?

Mr. Richardson:—We object to that and we desire to have the language of Dr. Cutter stated. He made no effort to get that or any hospital to adopt and observe the Mundt Resolution.

By Mr. Lewin:

Q.—I am simply asking whether he knows about the correspondence between Colonel Ashburn, your superintendent, and Dr. Cutter, as to what you later learned to be the Mundt Resolution. A.—I have no recollection as to that; it is a perfect blank, so far as I am concerned.

Q.—You didn't know at all about this letter of Colonel Ashburn, the superintendent, to the defendant Dr. Cutter, dated November 5 saying:

"As for demand that 'physicians on the staff of hospitals approved for intern training should be limited to members in good standing in their local county medical societies,' it meets with the approval of the Medical Board as regards future appointments."

A.—I have no recollection of it. It may have come before the meeting. There were a great many meetings of that Medical Board I never attended; and it is possible that it may have come before a meeting which I did attend. If so, I have no recollection of it.

Q.—You were, however, a member of the Medical Board? A.—Yes.

Q.—And this letter I am referring to you was written two days after that famous resolution of yours?

Mr. Laskey:—I object to the characterization of the resolution as "famous."

Mr. Lewin:—I withdraw it.

THE COURT:—I wish counsel would refrain from characterizations.

The Witness:—From a literary point of view I would say it was infamous.

By Mr. Lewin:

Q.—Well, this doesn't recall anything to your mind at all? A.—No.

Q.—But it rather indicates, doesn't it, that from November 5 on— A.—(Interposing) I didn't read the letter.

Mr. Laskey:—I submit that the witness has testified that he never saw the letter, to his recollection, and now he is being asked if it doesn't indicate something.

THE COURT:—It is argumentative; asking what the action of the superintendent in writing a letter indicates. He says he knows nothing about it.

By Mr. Lewin:

Q.—Well, you wouldn't deny that about that time the Medical Board did say that this so-called demand met with its approval, so far as future appointments were concerned?

Mr. Laskey:—Objected to: it is argumentative.

THE COURT:—Yes. He has stated what the action of the Board was, and his particular action with respect to that.

Mr. Lewin:—All I wanted to find out is whether his position is that the Board didn't pass that approval, or whether he simply doesn't know about it.

THE COURT:—You may ask him that.

By Mr. Lewin:

Q.—Did you intend to deny that the Medical Board— Mr. Laskey (interposing):—That is not what your Honor indicated he might ask.

THE COURT:—He may state whether or not this letter changes his recollection as to what the Medical Board did. I think that would be satisfactory.

The Witness:—Mr. Lewin, the only recollection I have—I assume you are referring to the Mundt resolution—the only recollection I have about the matter is what I testified to on direct examination as to the meeting with Dr. Crowley, and that I moved that the action of the Board be rescinded; that is my only recollection about that. I am definite about that, because I recall also I stated to the Medical Board that it took in people who could pay their dues; it would tend to keep them out, and I wasn't for it.

By Mr. Lewin:

Q.—You did see Dr. Selders' application, made in the fall of 1937? A.—You say I saw it?

Q.—Yes. A.—I couldn't say I saw it. It was probably read. It was undoubtedly read; it must have been read.

Q.—It was referred to the Medical Board, of which you are a member? A.—Yes.

Q.—And I suppose you voted with regard to the recommendation on the application? A.—Every time I was present I voted; I do not mean to intimate that I was ever present and did not vote.

Q.—So it would be safe to say that you read it and knew its contents? A.—Safe to say I knew its contents.

Q.—And isn't it true that the application followed the usual form and gave you information as to his birth, his education and his experience; his teaching experience; his hospital experience, and then his references? A.—So far as I know. I have no recollection to the contrary.

Q.—And don't you remember that he gave you the names of certain gentlemen, doctors to whom you might write to get

information with regard to him and his qualifications? *A.*—I have no recollection as to that. I assume he did; I have no recollection of any names of individuals.

Q.—Do you have any recollection now of having received any letters from his references? *A.*—No. Well, now, I have recollection that such letters were received and read to the Board, but other than that—as to who wrote them—I have no recollection.

Q.—And that must have entered into your consideration of his application? *A.*—Well, that question I couldn't answer because I have no recollection of their contents.

Q.—Don't you know, as a matter of fact, that the only two persons listed on the application to which the Columbia Hospital wrote were the Worcester City Hospital and the Harris County Medical Society? *A.*—Well, within the last few weeks, within the last two weeks, my recollection; from my discussion with a fellow member of the Medical Board, my memory has been refreshed on that point, but if it had not been for that, I would have no recollection.

Q.—It would be the usual thing and expected thing for your board to communicate with the references that are given? *A.*—I think so, if there is any question involved in the applicant's fitness that probably would be done.

Q.—And this application leaves a space for the names of references, so it contemplates references should be furnished? *A.*—I have no visual picture of the application blank at the present time; I have no idea what it looks like, what it calls for.

Q.—You would think if you were going to investigate the qualifications of a doctor that would be one of the sources you would turn to? *A.*—Yes.

Q.—But you have refreshed your recollection so that you know that the references were confined to the Worcester Hospital and Harris County Society? *A.*—Are you referring now to his qualifications in surgery?

Q.—I am referring to all his qualifications. *A.*—I want to be perfectly fair. I have no recollection about this thing, that is as to his surgical qualification, except the thing was referred to the Washington Academy and that was their responsibility.

Q.—Now, I am going to show you what purports to be a letter which Colonel Ashburn, the secretary of the medical board, wrote to the Houston Medical Society, that would be the Harris County Medical Society? *A.*—I assume so.

Q.—He says, doesn't he:

"I am directed by the Medical Board of this hospital to seek your aid in determining the qualifications of Dr. Raymond E. Selders, who practiced in Houston from 1928 to 1935, for doing major and gynecological surgery and operative obstetrics.

"Dr. Selders is an employee of a medical cooperative or insurance organization recently formed by employees of the Home Owners Loan Corporation. This movement has received national attention and has excited much opposition in local medical circles. Dr. Selders, while apparently a generally well trained man, has not submitted evidence of the special training and experience usually demanded by this hospital of men seeking the privilege of doing operative work in gynecology and obstetrics.

"Because of the special circumstances of the particular case and the Board's desire to act in a fair and judicial manner, any assistance you can give it will be greatly appreciated and will be held confidential.

"Very truly yours,
"P. M. Ashburn, M.D."

Q.—Now, were you a member of the Medical Board that gave instructions to Colonel Ashburn to write that sort of a letter? *A.*—What is the date?

Q.—Nov. 25, 1937. *A.*—I was a member of the Board but whether I was at that meeting I have no recollection, and I have no recollection of giving any such instructions.

Q.—As a matter of fact, you would say it was true, and known to the Medical Board? *A.*—As you read it, I heard nothing that wouldn't be true, and it is under Colonel Ashburn's signature.

Q.—It calls attention to G. H. A.? *A.*—Yes.

Q.—And that is the "movement" which he says has received national attention and has excited much opposition in local medical circles? *A.*—Yes.

Q.—I wonder whether you are familiar with the letter which the secretary of the Harris County Medical Society wrote back in answer to this letter. It is dated Dec. 2, 1937. Here is a letter from Secretary Coole of the Harris County Medical Society. Did that come to the attention of the Medical Board? *A.*—It may have done so. I think I would have recognized that signature if I saw it before. I have no recollection of it.

Q.—You would say in ordinary course this information would generally be given you. Doesn't he tell you this:

"Dr. Selders is a member of this society in good financial standing. His record here is clear and shows that he is academically and professionally well qualified. I have been given to understand that recently

he completed his Master's degree in Surgery at the University of Pennsylvania which should further qualify him."

And then he says:

"The Harris County Medical Society strongly condemns any such practice and if the allegations are found to be true, Dr. Selders will be subject to disciplinary action on the part of the Society."

Q.—Does that refresh your recollection that that information came as a result of that reference? *A.*—None whatsoever. I have no recollection of having seen it before.

Q.—You think perhaps you voted without that information and knowledge before you? *A.*—I am afraid you will be getting me in bad with the Board of Directors but the fact is I didn't attend many meetings, especially at this time.

Q.—Didn't Colonel Ashburn on the same day that he wrote the Harris County Medical Society send a similar letter to the Worcester City Hospital? *A.*—All I can say is I recognize his signature here. I have no recollection of that. Understand, I may have known about it at the time, but the matter wasn't of sufficient importance to me to make any definite impression. It was a few years ago, and I just don't remember.

Q.—I wonder if this information which Dr. McIver forwarded came to your attention? *A.*—Neither could I answer that. I can say that within the last week I learned, or my memory was refreshed to the effect that there had been a communication from the Worcester Hospital, but as of November 1937 I have no recollection of it as of that date.

Q.—Your memory has been refreshed as to those facts then? *A.*—No, my recollection is that I was informed here recently that there was a communication from some individual in Worcester.

Mr. Richardson:—We object to this method of examination. The witness has said over and over again he knows nothing about this, and counsel continues to examine him with reference to it.

THE COURT:—Yes, the witness disclaims any knowledge of the letter; therefore as to him its contents are not a proper basis for question.

Mr. Lewin:—He said he had refreshed his recollection as to the letter fairly recently.

THE COURT:—He says that he has not refreshed his recollection; he says his recollection is that he was informed recently of something of the sort.

The Witness:—I beg your pardon. I didn't say it refreshed my recollection about that particular letter. I said it refreshed my recollection that there had been some letter from Worcester.

Mr. Lewin:—All I want to know is whether he knew about this before voting on Dr. Selders' application.

THE COURT:—Ask him that.

Mr. Richardson:—He has replied three times that it doesn't refresh his recollection.

THE COURT:—Ask the question.

By Mr. Lewin:

Q.—Does this refresh your recollection as to the facts which the Worcester City Hospital supplied the Medical Board and your hospital?

Mr. Richardson:—I suggest the witness be permitted to read the letter and then answer the question.

THE COURT:—Yes, that is the proper method. If it doesn't refresh his recollection there is no basis for examining the witness about it.

The Witness:—Now, what is your question?

By Mr. Lewin:

Q.—I want to know whether the letter refreshes your recollection that these facts were before the Medical Board some time before you voted against Dr. Selders. *A.*—I couldn't say. It doesn't refresh my recollection as to whether this specific letter or these specific facts were before the Board the result of this letter, but I know that such facts were before the Medical Board. Whether they came from this particular source or not, I could not say.

Q.—Were these facts before the Board: that Dr. Selders had served a residency in the Worcester City Hospital in surgery between the dates July 1, 1936 and July 1, 1937, coming to that institution from the Pennsylvania Post-Graduate School, where he had taken a course in surgery the previous year? That as to the number of operations he performed, the only accurate figures would have to be gained from a survey of a large number of records, but scanning the operating schedules for the year he was listed at the Worcester Hospital to operate on 273 cases, of which a hundred and ninety might be classed

as major and 83 as minor. That these figures did not necessarily mean that he had performed these operations himself.

"He may have elected to assist someone else in the operation, or does it mean that this is all the operating that he participated in. He may have assisted or otherwise participated in considerably more than are shown here."

Doesn't it also give you these facts:

"Dr. Selders was a resident on the surgical service here and, therefore, did not figure to any particular extent in obstetrical work. Gynecology is here absorbed in general surgery and one may assume that he had considerable contact therefore with gynecological surgery."

Those facts, you say, were before the Board as to his experience in the Worcester City Hospital at the time they denied his application? *A.*—I assume that similar facts were before the Board, but I have no recollection of these specific facts. I could comment on them if you want me to, but it would not be a question of recollection.

Q.—You are not sure then whether the Board knew of Dr. Selders' experience at the Worcester City Hospital? *A.*—I assume that is absolutely true, but you ask me to recall things from my memory as far back as 1937, which I am frankly unable to do.

Q.—I appreciate that. I am not trying to overtax your memory; I am trying to refresh it. *A.*—It is easy to overtax it.

Q.—I think you did say that you referred this application to the Washington Academy of Surgery, in so far as it was for general surgical privileges? *A.*—Yes.

Q.—And is it not true that the response which the Washington Academy of Surgery gave you was simply this: I am reading now from Government's Exhibit 447-A. It is dated Jan. 31, 1938:

"I have today been informed by the Committee on Hospital Privileges that they recommend the disapproval of the application of Dr. Raymond E. Selders to do general surgery.

"Very truly yours,
"F. C. Fishback."

Q.—You didn't receive from the Washington Academy the grounds on which his application was turned down? *A.*—Evidently not; I certainly have no recollection of the grounds being discussed before the Board.

Q.—I think you testified on direct examination that you referred the application to the Gynecological Society, as regards his application for obstetrics and gynecology. *A.*—I have a recollection that was done; I know it was the usual thing. I am not sure how I learned it was before the Gynecological Society but I know it was. It was the usual routine to do it.

Q.—How long had it been usual routine? *A.*—It wouldn't go back very far because the Gynecological Society had not been in existence only, I should say, a matter of six or seven years.

Q.—Six or seven years? *A.*—Yes.

Q.—As a matter of fact, didn't it go back only to 1937, and just one month—the same month, as this application; that is this custom to send applications to the Gynecological Society? *A.*—I thought your question had reference to how long the Society had been in existence.

Q.—I got the impression from you that Dr. Selders' application was sent to the Gynecological Society pursuant to a course of dealing that had carried on from six to seven years. *A.*—If I made that statement it was an inadvertence. As to our custom, I have no recollection as to when it started.

Q.—As a matter of fact, wasn't that practice started just at that time, the time of the Selders application? Do you think I can refresh your recollection as to that at all? *A.*—I don't know whether you can or not. I begin to have a hazy recollection as to the matter of referring such applications to the Gynecological Society having been discussed with the Board, but my memory couldn't be refreshed as to when it occurred, except to recognize that this signature here on this communication is authentic.

Q.—Let me show you Colonel Ashburn's letter to the Society, referring to Dr. Selders' application.

"I am directed by the Medical Board to request your cooperation and advice as proffered by your letter of Oct. 19, 1937?"

A.—I would say the signature of Colonel Ashburn is absolutely authentic.

Q.—It indicates, does it not, that this was the first time gynecology was resorted to? *A.*—I wouldn't say that, but it indicates it was in November 1937.

Q.—That in 1937 you got an offer from the Gynecological Society that it would consider applications if referred to it for the first time?

Mr. Laskey:—Does it say anything about the first time?

Mr. Lewin:—I can go further into it if you want. I was merely trying to shorten this up.

The Witness:—I wouldn't question this at all. I may have been in error in thinking it was earlier adopted, but I have no recollection of it.

By Mr. Lewin:

Q.—Well, it says here:

"I am directed by the Medical Board to request your cooperation and advice as proffered by your letter of Nov. 19, 1937."

That, of course, would be the Gynecological Society's? And here, "in the matter of obstetrics." *A.*—I would say it was absolutely authentic, but I still say I have no recollection of it whatsoever.

Q.—I see. Again with the Washington Gynecological Society, when it reported it simply recommended against Dr. Selders without giving any ground for the recommendation, did it not? *A.*—I have no recollection of their having stated any ground.

Q.—You do remember that the Medical Board did not consider any grounds as mentioned by the Gynecological Society? *A.*—None.

Q.—Did you interview Dr. Selders yourself? *A.*—No.

Q.—You didn't? *A.*—My experience with Dr. Selders consisted of seeing a strange doctor in the corridor once and asking a nurse who he was and being informed that he was Dr. Selders.

Q.—You didn't observe his operations or his technic? *A.*—He didn't do any operations; he handled a few normal obstetrics.

Q.—Of course, that would be one way to judge his qualifications, to see him in action? *A.*—Very decidedly, if the action was sufficiently broad.

Q.—As a matter of fact before your medical board passed on this application: let me ask you whether or not you had anything more before you than simply the turn down unexplained of the Washington Academy of Surgery, and the turn down unexplained by the Gynecological Society?

THE COURT:—What do you mean by the "turn down"?

Mr. Lewin:—The refusal of the Academy and the Gynecological Society.

THE COURT:—I think it is better for counsel not to characterize these words and these actions.

Mr. Lewin:—It is simply a question of my faulty English; I don't think there is anything else in it.

THE COURT:—Go ahead.

Mr. Lewin:—I will strike the question altogether.

By Mr. Lewin:

Q.—Did you have anything before you when you voted against Dr. Selders' application except this unexplained recommendation of the Washington Gynecological Society, the unexplained recommendation of the Washington Academy of Surgery, and possibly this information with regard to his experience at Worcester, and the information contained on his application? *A.*—Well, as far as my recollection goes that would be a true statement of facts, the proviso, of course, being that you will recall that he applied in the four categories—general surgery, major obstetrics, gynecology and normal obstetrics and, as far as his qualifications in obstetrics and major gynecology were concerned, as I testified on direct examination, I didn't require the reference to the Gynecological Society, because I could gage that myself.

Q.—You could gage it without meeting the man or seeing him operate? *A.*—I could gage it on that letter you just showed me. He doesn't say anything there about obstetrics.

Q.—What about gynecology? *A.*—Shows worse; shows training in a hospital where gynecology was absorbed in general surgery, and if there is any worse training for a gynecologist than that, I can't tell you what it is.

Q.—It does show that his training in gynecology might be considerable though, doesn't it? *A.*—It shows him in general surgical service, and I would say it would certainly not be considerable from the point of view of putting a man in a position of turning him loose in a hospital in gynecology. It wouldn't show he was competent to do that at all.

Q.—You remember it did give this information: this is from the superintendent of the hospital, "One may assume that he had considerable contact, therefore, with gynecological surgery?" *A.*—I testified that wouldn't mean a thing to me, because, as stated in the letter, that was all absorbed in general surgery.

Q.—But you didn't go any further to find out what that considerable contact with gynecological surgery might be? *A.*—I am talking about this letter you let me read; I am not talking about my other conclusions.

Q.—The point is you didn't make any investigation to find out whether he was qualified or not? A.—I wouldn't say that; I think we made a very good investigation.

Q.—The one you told me of here in this testimony? A.—Entirely sufficient for passing on that candidate, under the circumstances disclosed in his application and in this letter. Remember, this is a special hospital. It is one that has a very wonderful record throughout the country in obstetrics and gynecology, and it is not taking any chances in putting a man of uncertain ability on its staff.

Q.—Did your hospital admit him to the courtesy staff? A.—Yes. As I testified, when he separated his requests, when it came up as a separate proposition. The first time, it was coupled with his request for general surgery and major obstetrics and gynecology. When it came up as a separate proposition, I have already testified that motion was made to consider the application and he was turned down, and I moved to advise the board of directors that it was inadvisable to take any action at that time, and the result of that motion was that he did have privileges in the hospital in normal obstetrics during the pendency of his application.

Q.—But he was not admitted to the courtesy staff at any time? A.—Only indirectly. As I testified, he did see patients there, Mr. Lewin.

Q.—Was he ever admitted to the courtesy staff of the hospital to do anything? A.—No, except that the result of that action was that he did bring patients in. It is hair-splitting, it seems to me. He was not formally placed on the courtesy staff, but he did have the privilege of bringing normal cases in there for a time.

Q.—Did this letter come to your attention, the letter from Dr. Selders to the hospital, dated April 23, 1938, supplying you with more details in regard to his abilities (handing a paper to the witness)? A.—I have no recollection of ever having seen that letter in my life.

Q.—Did you know that Colonel Ashburn wrote to Dr. Selders in April 1938 asking for more information? A.—I may have known it, but I have no recollection of it.

Q.—Does this letter refresh your recollection as to the facts? A.—Not the least bit.

Q.—Before the Medical Board? A.—No. It is apparently brand new to me. I have no recollection of it whatsoever; none.

Q.—Did you know that Dr. Selders, some time in the spring of 1938, withdrew his application for operative obstetrics? A.—As I testified, I knew that at some time; I could not state when it was. His request was separated into the different categories.

Q.—And he finally asked simply for privileges in normal obstetrics and in major surgery; is that true? A.—In gynecology, was it not? Major gynecology and normal obstetrics.

Q.—Did you see this letter of Dr. Selders of Sept. 2, 1938, Government Exhibit 389? Only a portion of it, I believe, is in evidence, however.

Mr. Laskey:—Will you point out to the witness, please, the portion that is in evidence?

Mr. Lewin:—Yes. This is in evidence (indicating). These things with circles around them are not (indicating).

A.—Am I to consider what is not in evidence?

By Mr. Lewin:

Q.—I think you can consider it all and see whether it refreshes your recollection. A.—This letter I don't recall ever having seen, but it refreshes my recollection to the extent that I know there was a request made for separation of his application into different classes. I think that there is an inadvertent error here on Dr. Selders' part, where he says here that—

"I wish to renew my request for permission to do major surgery in Columbia Hospital for Women."

I suppose he means there, Class 1 in gynecology. I do not know whether he means general surgery. He says major surgery.

Q.—Does he not follow that by a statement of his training which refers to general surgery? A.—Well, as far as the context goes, it looks as though he was referring to general surgery; but the action of the Medical Board in the same month of September 1938 was based on an application in Class 3, which was normal obstetrics, and Class 1, which is major gynecology, and does not refer to major surgery in the sense of general surgery.

Q.—Is it not true that he specifically in another communication withdrew his application for operative obstetrics? A.—I have no recollection of it, Mr. Lewin; but I assume it is true, from the fact that he did not come before the Medical Board at that meeting.

Q.—Look at his letter of April 23, 1938 and see if you remember that. Did I show you that before? A.—I think you did.

Q.—Let me show you this particular paragraph (indicating). A.—Yes.

Q.—Does not that rather indicate that he withdrew his application for operative obstetrics? A.—It definitely indicates that. He says he withdraws his request.

Q.—So that his broad request had been narrowed considerably, had it not? A.—By that letter, yes. I testified that I knew it had been narrowed, but I didn't know when it occurred. That refreshes my memory.

Q.—But the fact that it was narrowed still did not give him his admission? A.—It finally gave him the privilege of attending cases in Class 3.

Q.—Tell us something about the Washington Gynecological Society. Is not that a society whose membership is composed exclusively of members of the District of Columbia Medical Society? A.—My recollection of its constitution is that it is a requirement for membership that a member of the Gynecological Society should be a member of the District of Columbia Medical Society.

Q.—So that when the hospital referred Dr. Selders' application to it, it was simply referring it over to a group of the District of Columbia Medical Society?

Mr. Laskey:—Is it not better to suggest that it was referring it over to a group, each member of the group being a member of the Medical Society?

Mr. Lewin:—I will adopt that suggestion.

A.—Yes. That leaves out the word "simply," and that is all right. That is proper.

By Mr. Lewin:

Q.—Who were the active men in the Washington Gynecological Society in the fall of 1937 when Dr. Selders' application came before it? A.—I can say in a general way that it would be the leading specialists in that line in Washington, but as to what particular group of them were active at that time I have no recollection. I am afraid that my attendance at meetings of that organization was very poor.

Q.—Let me see if I can refresh your recollection a little bit from my notes of the minutes of the Council of the Washington Gynecological Society, Nov. 18, 1937. A.—Where was that held, Mr. Lewin?

Q.—I do not know that.

Mr. Lewin:

Q.—Was Dr. Crowley your chief of staff at Columbia? A.—We do not have a chief of staff. We have a president of the Medical Board.

Q.—Was he the president of the Medical Board? A.—At that time?

Q.—Yes; in the fall of 1937 and the spring of 1938. A.—He very well may have been, only because I know that he brought back from the board of directors the Mundt Resolution request that we rescind our action, and the minutes said Dr. Crowley brought that back. Therefore if he attended a meeting of the board of directors he would have been the president of the Medical Board at that time.

Q.—Let me see if I understand that. When the resolution of December 1 of the Medical Society which recommended that your staff be limited to members of the A. M. A.—A.—That was the recommendation of the Hospital Committee.

Q.—Dr. Crowley was a member of the Hospital Committee, was he not? A.—That I could not say.

Q.—I think it appears in evidence that he was. A.—He may have been.

Q.—At any rate, when it came to your hospital he was a director of your hospital at that time? A.—That I have no recollection of. I testified that I could not understand that that action was taken the first of December 1937—wasn't it?

Q.—Dec. 1, 1937. A.—But my recollection of the resolution which was adopted by the society on the advice of the Hospital Committee, its ever being before the Medical Board, was refreshed by looking at the minutes of March 10, and I am at a complete loss to understand what happened to it in the meantime. I have no recollection, you see.

Q.—Apparently, though, your Medical Board, in the spring of 1938, recommended its adoption to the directors. A.—It did at the meeting of March 10 on the motion, as I recall it, of Dr. Crowley.

Q.—And on your Medical Board, in addition to yourself, was Dr. Sprigg, one of the defendants in this case? A.—He was a member of the board at that time. Whether he was present at the meeting or not I don't know. There is no evidence that I was present at the meeting, and I have no recollection of it.

Q.—And then the directors suggested that the request from the Medical Board be withdrawn and you moved to withdraw it, and it was withdrawn; is not that correct? *A.*—That is correct. That was at a subsequent meeting, in October.

Mr. Richardson:—Mr. Lewin, I think you are slightly in error. His motion was not that it be withdrawn. His motion, after it was withdrawn, was that their previous action be rescinded.

The Witness:—That is correct. The request came from the board of directors to the Medical Board that it rescind its action in recommending the adoption of that policy, and I moved that that action be taken. That is correct.

By Mr. Lewin:

Q.—That policy would be identical with the Mundt Resolution, and you so understood it? *A.*—The policy that we were asked to rescind?

Q.—Yes. *A.*—I would think so, absolutely. But, as I say, I never heard of the Mundt Resolution until I was in this court room.

Q.—Did you know that Dr. Hulburt, a Group Health Association doctor, applied for obstetrical privileges at your hospital? *A.*—I have a hazy recollection of it. I wouldn't recognize the name. I do know that there was some younger man, late in 1938, that applied; but that is as far as my recollection goes.

Q.—I wonder if I could refresh your recollection by showing you my notes of the minutes of the Executive Committee of April 18, 1938 (handing papers to the witness). *A.*—What is this—the meeting of the Executive Committee of the Medical Board?

Q.—Let me show you the minutes of the board on April 14, 1938. *A.*—Have you anything that shows the officers of the board at that time, when Crowley was president?

Q.—I understand Crowley was president.

Q.—Dr. Sprigg was there. He was a member of the board of directors, was he not? Or did he have privileges of the meeting? *A.*—Then there must have been two of them privileged to attend, Dr. Crowley and Dr. Sprigg. My recollection is that at one time one member only of the Medical Board served on the board of directors, and then later on it was changed to two. I don't remember when that occurred.

Q.—Let me go back to the minutes of the Medical Board of April 14, 1938. Does not that refresh your recollection that the application of Dr. A. S. Hulburt for privileges in Class 3 was tabled? *A.*—No; I have no recollection of it at all. The minutes may show whether I was present at that meeting. There were a whole lot of meetings that year particularly that I never attended, and I may not have been there; so I have no recollection of it at all.

Q.—Did you know that he resigned from Group Health Association on April 25? *A.*—I may have known it at the time, but I have no recollection of it.

Q.—Did you know that he was given Class 3 privileges at your institution in early June 1938? *A.*—I have no recollection of that, Mr. Lewin. You see, this whole thing was minor, as far as I am concerned.

Q.—Perhaps it was, but I am trying to get the facts. *A.*—That is all right. I am merely trying to excuse myself for not remembering well.

Q.—Will you look at my notes on the minutes of the meeting of the Medical Board on June 9, 1938? Dr. A. S. Hulburt's application was approved for Class 3 on that date, was it not? *A.*—What are you asking me?

Q.—Whether that refreshes your recollection that after April 25, to wit, in June of 1938, he was approved for Class 3 in your institution. *A.*—I am terribly sorry. All it does is to bring back a hazy recollection to me of having heard that name before the Medical Board.

Q.—Is not your hazy recollection this, that Dr. Hulburt applied when he was a member of Group Health Association and was not given privileges, and his application was tabled until after he resigned from Group Health Association, and then a little over a month afterwards he was given privileges there? Is not that your recollection? *A.*—It is awfully hard for me to separate in my mind what I remember and what I know now; but it begins to clear up in my mind a little; yes.

Q.—Would you say that my question is correct? *A.*—I have no doubt it is correct. In fact, if you ask me if it is so, I would say yes, undoubtedly, because the record seems to show it.

Q.—Would you testify that his connection with Group Health Association had something to do with postponing it until after he had resigned? *A.*—I have no recollection of that.

Q.—Dr. Halstead, another Group Health Association doctor, testified that he applied at your hospital. Do you recall that? *A.*—I do not even have any recollection of there ever having

been a Dr. Halstead connected with the G. H. A. or having applied.

Q.—Were you not present at the meeting of the Medical Board on Dec. 9, 1938? My notes show that you were. *A.*—Maybe I was, but I have no recollection of it.

Q.—Dec. 9, 1938. Do not these notes refresh your recollection to this extent, that on that day the application of Dr. Clark D. Halstead for Class 3 privileges was postponed pending further information? *A.*—I have no recollection whatsoever.

Q.—Would you say that you attended that meeting? *A.*—If the minutes say so. I have no recollection of it at all. I do not know any more about where I was on December 9 than you do, I guess.

Q.—I suppose you would not question that that was the treatment that was given his application? *A.*—No.

Q.—Would you say that his connection with Group Health Association had something to do with deferring action from August, when he applied, to December 1938, and then deferring it further at that meeting? *A.*—What was he applying for?

Q.—Class 3 privileges, normal obstetrics—isn't it? *A.*—That is normal obstetrics. And you are asking me what?

Q.—Whether, in your opinion, his connection with Group Health Association accounted for the fact that although he applied in August his application was deferred until Dec. 9, 1938? *A.*—I cannot answer that positively. There were other factors coming in at that time. Everybody who was applying there at the same time was postponed because the hospital staff was so full that we could not take care of patients. Whether that action was in connection with this or not I don't know. I have no recollection of any discussion about the G. H. A. in connection with Dr. Halstead, or anything about it. I don't even recollect that there was such a man.

Q.—Coming back to the Washington Gynecological Society and the people active there, would you say that Dr. Jacob Kotz was active in the Washington Gynecological Society? *A.*—I know he is a member of it, but I have no—what do you mean by active, Mr. Lewin?

Q.—I was going to call your attention to the people present at the Nov. 18, 1937 meeting which seems to have preceded this offer of the Gynecological Society. You have already stated that Dr. Crowley was there. What about Dr. Sylvester? *A.*—What about him?

Q.—Was he on the staff of Columbia? *A.*—Yes.

Q.—A member of the Medical Society of the District of Columbia, of course? *A.*—Right.

Q.—Dr. Pagan? *A.*—He is not a member of our staff at Columbia, but I assume he is a member of the Medical Society—yes; I know he is a member of the Medical Society.

Q.—Dr. Jacob Kotz? *A.*—He is not a member of our staff at Columbia. He may have been at that time—not of our senior staff. He may have been an associate or something.

Q.—Was he not vice-president of the District of Columbia Medical Society at that time? *A.*—He may have been; I don't know.

Q.—Dr. Stanton—was he a member of your staff at Columbia? *A.*—No. I am sure he has courtesy privileges there, but he is not a member of the staff. You get mixed up between what you mean when you say "staff"—between the courtesy and the attending staff. He undoubtedly has courtesy privileges.

Q.—How about Dr. McNitt? *A.*—He was a member of our attending staff.

Q.—He was the man to whom Colonel Ashburn wrote with reference to Dr. Selders' application to the Washington Gynecological Society, and he is the man—*A.*—I suppose he was the secretary of the Gynecological Society.

Q.—Is not this his letter (indicating), saying that the Washington Gynecological Society does not consider these doctors qualified for operative obstetrics? *A.*—Yes. He was a member of the staff.

Mr. Laskey:—What doctors?

Mr. Lewin:—Dr. Oliver Cox, Dr. Richard Castell and Dr. Raymond E. Selders.

Q.—I am not sure how you testified on your direct examination with regard to the action which was taken Sept. 19, 1938, by your Medical Board. See if I can refresh your recollection about it. Is it not true that at that meeting there were present Dr. Crowley, Dr. Sylvester, Dr. McNitt, Dr. Willson, Dr. Sprigg, Dr. Mondell, Dr. Cajigas, Dr. Copeland and Colonel Ashburn? *A.*—That is the way the minutes read.

Q.—These are my notes. *A.*—I have no recollection of it. For instance, Mr. Lewin, I have no recollection of this meeting at all, except that it is in the minutes, and I might refresh my recollection from it. I certainly could not say who was there. There is the list (indicating), and I have no doubt they were all there.

Q.—Refreshing your recollection further, is it not true that Dr. Sprigg moved to reconsider Dr. Selders' application for Classes 1 and 3 and that he be not endorsed? *A.*—That is undoubtedly so.

Q.—And is it not true that it was discussed by various members present, including yourself? *A.*—I assume so, from the minutes.

Q.—Did you not move a substitute resolution that the board consider it inadvisable to act at this time on the application? *A.*—That is right.

Q.—And that resolution was carried, was it not? *A.*—It was carried before the Medical Board and received the approval of the board of directors. The net result was that Dr. Selders, instead of being denied privileges in Class 3, practically got privileges in Class 3 during the pendency of his application, as I understand it.

Q.—As a matter of fact, you remember that when that resolution that you sponsored came before the directors the superintendent reported that Group Health Association had again asked for the granting of privileges to these doctors? Were you there? *A.*—I don't suppose I was. No; I would not be present at that meeting.

Q.—I understood you to say on your direct examination that when you first learned of Group Health Association on May 16, 1938 it was at Dr. Morgan's office; and with reference to Section 5—and I am going to call it Section 5 for brevity, and not go through the rest of it. That is the only Section 5 involved, is it not? *A.*—Yes. Thank you very much.

Q.—Section 5 of the constitution had been in force for 14 months? *A.*—It had been in force a year before the preceding January. That was in 1937, was it not?

Q.—Did you not mean by that testimony that it had been in force as Section 5, but in a radically different form and substance? *A.*—No; I did not. I testified that it had been modified.

Q.—You testified it had been modified only in some minor particulars. *A.*—It seemed to me to be minor.

Q.—Is not this the way it read when it was adopted Jan. 8, 1936:

"No member of the Society shall engage in any professional capacity whatsoever with any organization, group, or individual engaged in the practice of medicine unless the Society has received proof that the profits from such practice inure to the benefit of the medical profession only."

A.—I assume it was. I know it was a different form.

Q.—Did it not remain in exactly that form until March 3, 1937 for a period of fourteen months? *A.*—That is my recollection, precisely.

Q.—Is it not true that so worded it would not be a justification for withholding contact with Group Health Association?

Mr. Laskey:—I object to that as argumentative, your Honor.

THE COURT:—Objection sustained.

By Mr. Lewin:

Q.—Were you not aware, when you heard about Group Health Association and as you discussed it later, that it was a nonprofit organization and that there were no profits to accrue to anybody? *A.*—I probably did.

Mr. Laskey:—If he proposes to connect that with this action, your Honor, the witness has testified that he first heard of Group Health in May, six months after this action.

Mr. Lewin:—My offer is to show that this section of the constitution, which was in force all through 1936 and the early part of 1937, could not have any relation whatever to Group Health Association, but I want to follow that up by showing that the change could bring Group Health Association directly under it.

THE COURT:—That may be, but his testimony is to the effect that he knew nothing of Group Health until after March 1937.

Mr. Lewin:—Yes; that is correct.

THE COURT:—Then, how could that connect his knowledge with Group Health?

Mr. Lewin:—All I want to show now is the simple fact that when he did learn about Group Health Association he found it was a nonprofit organization.

Mr. Laskey:—Ask him what he did find about it.

Mr. Lewin:—I have him on cross examination and I am permitted to lead him.

Mr. Laskey:—I do not object to your leading him.

Mr. Richardson:—Let me make my position clear, if your Honor please. My objection is that the legal proof here is to the contrary as to Group Health Association being a nonprofit organization.

Mr. Lewin:—Will you state to the court what that proof is?

Mr. Richardson:—I have in mind the brief which you filed in the Court of Appeals in which you urged that it was a profit corporation.

Mr. Lewin:—Certainly my brief is not proof in this case, your Honor. I have not referred to the brief for some time, but I seriously question any such representation in it.

THE COURT:—Let us not go back to that. Put your question.

By Mr. Lewin:

Q.—When you learned about Group Health and when you discussed it, did you not understand it to be a nonprofit organization? *A.*—I think so; definitely; yes.

Q.—So that if Section 5 had remained unamended it could not apply to Group Health Association. Is not that clear?

Mr. Laskey:—I object as argumentative.

THE COURT:—Objection sustained. It is purely argumentative.

Q.—On March 3, 1937 it was amended to read as follows, was it not:

"No member of the Society shall engage in any professional capacity whatsoever with any organization, group, or individual by whatever name called or however organized, engaged in the practice of medicine within the District of Columbia or within ten miles thereof, which has not been approved by the Society."

I will not read the rest, because that is with reference to the machinery. But is not that the way it read when you amended it? *A.*—I assume it did. I never carried it in my mind.

MARCH 26—AFTER RECESS

TESTIMONY OF DR. PRENTISS WILLSON

CROSS EXAMINATION (RESUMED)

By Mr. Lewin:

Q.—Dr. Willson, I was questioning you when we adjourned with regard to the amended Section 5. Now, isn't it true that on March 3, 1937, that section became substantially changed from what it had been before? *A.*—Well, Mr. Lewin, that was never my understanding of the matter. The section was introduced originally, and was so understood in the Medical Society always, as a method for controlling the practice of members and the relations of the Society to members who were engaged in contract practice under the Workmen's Compensation Law.

Q.—But by its terms it was not limited to Workmen's Compensation clinics, was it? *A.*—Oh, no, but I mean that was what lay back of its ever having been introduced.

Now, to continue to answer your question, I personally never had the feeling—I don't recall the wording of the thing in either form in my mind—but I never had the feeling that it was substantially changed.

Q.—Before March 3, 1937, it applied only to organizations where profit accrued to laymen, whereas after that date it applied to all persons practicing medicine and to all organizations practicing medicine whom the Society did not approve of for any reason it chose; is that right? *A.*—May I compare them? Will you show me where the two are?

Q.—So that we will be clear about it, isn't this true: that before the change it simply limited your members from having participation in clinics where profit from those clinics went to laymen, whereas after the change it forbade members from having any participation whatsoever with any persons practicing medicine if those persons were not approved by the Society for any reason?

Mr. Richardson:—We object to the question on the ground that it calls for a conclusion of the witness and is purely argumentative; further, the documents speak for themselves.

Mr. Lewin:—I am simply asking for the understanding of the witness.

THE COURT:—I think that is strictly true, Mr. Richardson; however, the doctor has stated his understanding to be that there was no substantial change, and it may be that this cross-examination is reasonable.

By Mr. Lewin:

Q.—Isn't it true that before the change it forbade your members from having anything to do merely with clinics that had a profit, where some of that profit went to laymen, whereas after the change it forbade your members from having anything to do with any persons practicing medicine unless they were approved by the Medical Society, for any reasons the Medical Society saw fit? *A.*—Well, I testified, and I think as I read this now, that this latter provision seems to me to be more inclusive, from the point of view of its wording; but from the point of view of my understanding of the practical application of the thing, I never had any opinion that there was any difference.

Q.—But I want to be clear about this, and I should like to have a direct answer, if you can make it, to my question. *A.*—I think I stated that: that I thought that more inclusive. The language here was more inclusive.

Q.—But isn't it so inclusive as to bring about the result which I have indicated in my question?

Mr. Richardson:—I object to that as leading and calling for a conclusion of the witness.

THE COURT:—Yes, I think that is true. I think the doctor has explained his previous answer, and it now reduces itself to a mere comparison of the words or the language.

Mr. Lewin:—It seems to me that it leaves it in some confusion, with the testimony simply being that it was more comprehensive later. I should now like to have a definite expression.

THE COURT:—You have the answer. You, of course, could pick out anybody in the courtroom and ask him to give you his understanding of the language of those two sections, and the result would be the same. It is purely an opinion of language.

Mr. Lewin:—Well, I wanted to get the practice under it.

THE COURT:—I think it has gone far enough. He has told you the practice. He has told you he understood that its application was intended for the same purposes.

By Mr. Lewin:

Q.—Didn't you understand that its application would apply to the Group Health Association? A.—No, never in the world, because I had had no knowledge of Group Health Association for two months later or more.

Q.—But when you did get knowledge of Group Health Association, didn't it occur to you that this language would apply to Group Health Association?

Mr. Laskey:—I object to that.

THE COURT:—Objection is sustained.

By Mr. Lewin:

Q.—As a matter of fact, didn't you invoke this other section with regard to Group Health Association? A.—I never did.

Q.—Didn't you? Well, let's see. You testified that you presented this resolution, did you not? A.—Yes.

Q.—At the November 3 meeting of the Society? A.—That is right.

Q.—That was directed to Group Health Association, wasn't it? A.—No, sir.

Q.—What? A.—No, sir.

Q.—Is was not? A.—No, sir.

Q.—Was it directed to Group Health Association doctors? A.—No, sir.

Q.—What did you mean by this language:

"WHEREAS, The Medical Society of the District of Columbia has an apparent means of hindering the successful operation of Group Health Association, Inc., if it can prevent patients of physicians in its employ being received in the local private hospitals?"

A.—I meant just what it says: that it has an apparent means.

Q.—Wasn't your resolution addressed to the Group Health situation? A.—Except indirectly, it had no connection with the Group Health Association situation whatsoever.

Q.—What was the purpose of reciting at the very start that you had "an apparent means of hindering" its operation? A.—As I explained in my direct testimony, the reason for bringing in that resolution, except the "Resolved" down here (indicating), was that the thing be referred to a committee, which would present a resolution at the Medical Society, which would prevent the sending of that letter to the boards of directors of the hospitals, and to obtain enough votes, as an old medical organization man, familiar with what had to be done to get things in the Society—to get enough votes to get it passed and get that letter—proposed letter—stopped. There was the whole thing with reference to that resolution, and nothing else but that.

Q.—All right. Now, do I understand that you knew you could not get enough votes for your resolution unless you made it appear that it was directed against Group Health Association? A.—I didn't know anything of the sort. How could I know how many votes I would get? All I knew was that there was a great deal of difference of opinion and a great deal of turmoil in the Society, and any number of different views on the subject. What I wanted to do was to present a resolution which would attract enough votes to stop the sending of that letter and bury the whole thing in the committee.

Q.—Wasn't this turmoil in the Society, turmoil with regard to the Society's attitude toward Group Health? A.—It was the clashing views of many different individuals and convictions as to the threat involved in G. H. A. Some thought it was no threat at all; some thought it was a great threat. Some wanted to attack the problem one way, and some another. I felt it was making a mistake, as far as the Society was concerned, and my resolution was certainly not to protect G. H. A., neither was it to attack it. It was to protect the Society against a course of action which, in my judgment, could not be sus-

tained and would only, if it were put through, make the Society ridiculous.

Q.—You mean a course of action with regard to Group Health Association? A.—I mean a course of action with regard to calling the attention of the lay boards of hospitals to the provision of the constitution, which, as I have testified, I was always opposed to. I was opposed to this thing ever getting into the constitution. I tried to get it out, and for months and months after any of the G. H. A. situation developed, I was persistently and consistently opposed to the application of that provision of the constitution to the G. H. A.

Q.—You knew that the Sprigg letter, which you opposed, was directed to Group Health Association, did you not? A.—It was directed to the lay boards of the hospitals, but I know what you mean: it was motivated by the G. H. A. situation.

Q.—Yes, the purpose was to take care of the G. H. A. situation? A.—I don't know what the purpose was in the mind of the proponents, but it was certainly, in my judgment, connected with the G. H. A. situation; it couldn't be anything else.

Q.—It couldn't be anything else? A.—I don't think so.

Q.—You could not think of any other purpose for it?

Mr. Laskey:—For what?

By Mr. Lewin:

Q.—For the Sprigg letter? A.—At that particular time—Of course, it could have been applied to many other situations with respect to the hospitals, but at that particular time the natural assumption was that it applied to the G. H. A.

Q.—As a matter of fact, you don't know of any other situation to which it was applied? A.—Not at that particular time, no.

Q.—You were offering this resolution as a substitute for the Sprigg letter, weren't you? A.—That is right.

Q.—So, your resolution, too, then, was directed to taking care of the Group Health Association? A.—I have testified, Mr. Lewin, and you can't make me say that, because it isn't true. I testified that my sole purpose in this resolution was to stop the sending of that letter. The fact it was concerned with the G. H. A. situation was purely coincidental.

Q.—You believed what you stated here, didn't you, in recital No. 1? A.—Yes, I did—that it had the apparent means. Just underscore that word "apparent."

Q.—You believed that on Nov. 3, 1936, didn't you? A.—That they had the apparent means? Yes.

Q.—On November 3, when you had that belief, it preceded by five days or eight days Dr. Selders' application to your hospital; isn't that so? A.—I have no more idea of that relationship in time. I have no recollection of any such relationship.

Q.—When you got Dr. Selders' application, you still thought, didn't you, that your Society had the apparent means of hindering Group Health Association, if you could prevent Dr. Selders from being in the hospitals? A.—Oh, I don't know, because this language you refer to in this first paragraph occurred to me about 20 minutes past 5, for the first time, on the afternoon I introduced it.

Q.—But after you put it into the resolution, you still had that possibility in mind, didn't you, when you considered Dr. Selders' application, which I believe was sent to your hospital on November 11, you had in mind this belief, didn't you, that the Medical Society had an apparent means of hindering Group Health Association if it could prevent any of the Group Health doctors from being received into the local hospitals? A.—I certainly did not, because I had advocated an entirely different—As far as my opinion was concerned, the matter of G. H. A. physicians in hospitals should have been handled in an entirely different manner. I can tell you what I thought about it, if you want me to.

Q.—I think you have told us a lot about it. Didn't you also say that the Medical Society has some control over the policies of the hospitals? Didn't you say in substance that it had some control over the policies of hospitals by its control over the members serving on the staffs? A.—I said it has no direct control over the policies of hospitals as determined by their boards of directors except through its control of its own members serving on the medical staffs.

Q.—So, you did believe it had that much control? A.—That is exactly what I did not believe, and that is the reason the resolution was introduced, to keep the Society from getting into a ridiculous position with the hospitals. What would have been the result of sending this letter? Suppose the boards of directors said to the Medical Society, "You go and attend to your own business; we will attend to ours." The situation had come up—exactly the same situation—before, when I was on the executive committee, and the Medical Society, as my recollection goes now, on the advice of the

American Medical Association and the American College of Surgeons, had to back down.

Q.—What do you mean by this: "except through its control of its own members serving on their medical staffs"? A.—Mr. Lewin, I meant what it says. The only method of control—direct control—over the policies of hospitals which the Medical Society could possibly exert would be through the control of its members serving on those staffs.

Q.—But you meant it did have that much control? A.—I just testified I didn't feel it had that much control, because I had seen the thing come up before, and the Medical Society had to back down, because it proved it didn't have it, for the reason that it was my opinion throughout this whole controversy that if it ever came to a showdown between the Society and the members of the Society who were hospital staff physicians, they would stick with the hospital rather than with the Society.

Q.—Then, why didn't you say it didn't have any control at all about anything, about any of the staffs? A.—Because it never would have gone through the Society in that form. In other words, the letter would have gone out, and the motion would have been lost.

Q.—In other words, you mean to say you were not really sincere? A.—I was subtle; let us put it that way.

(There was laughter in the courtroom.)

THE COURT:—Young man, I don't want any more outbursts of laughter like that. Haven't you been in the courtroom before? A Man in the Courtroom:—Yes, sir.

THE COURT:—Well, you learn not to laugh, or else you will go out.

By Mr. Lewin:

Q.—Do I understand that it is your testimony that although you put those two recitals there in the resolution, you did not mean them? Is that what it comes down to? A.—Well, I wouldn't go that far, Mr. Lewin.

Q.—Did you mean them, or didn't you mean them? A.—I said in the first one—the gist of the words—

"Whereas, The Medical Society of the District of Columbia has an apparent means of hindering the successful operation of Group Health Association, Inc."

Q. (Interposing)—Did you mean that? A.—I meant just that, if you underscore the word "apparent." It appeared on the surface that it had.

Q.—It is not underscored, but let us assume it is underscored. Did you mean it as it is written if you underscore the word "apparent"? A.—Yes.

Q.—Now, the second one. Did you mean that? A.—"Whereas, The Medical Society of the District of Columbia has no direct control over the policies of such hospitals as determined by their lay boards of directors, except through its control of its own members serving on their medical staffs; . . ." That is a statement of fact. That is the only possible way they could control the hospital.

Q.—Did you mean that? A.—I meant that—just as it reads.

Q.—Now, then, did you mean this statement in the third recital:

"Whereas, Conflicts between the Medical Society of the District of Columbia and any local hospitals arising from an attempt to enforce the provisions of Chapter IX, Article IV, Section 5, of its Constitution should be assiduously avoided, if possible, because of the unfavorable publicity that would accrue to its own members?" A.—Yes, I certainly did.

Q.—Did you mean that that was the reason why you were offering the resolution: to avoid unfavorable publicity? A.—No, there were many other reasons, as I have testified; this was one of them.

Q.—Did you give any other recitals in that recital? A.—I gave them in my testimony; I didn't give them in there. But please remember this thing was done in 15 or 20 minutes on my desk late in the afternoon, and I am not proud of it as a literary effort.

Q.—I am not questioning its literary merits. I am trying to see what was meant by it. The reason you gave there, and the only reason, was that conflicts would bring unfavorable publicity? A.—Conflict should be avoided for any reason, because it would bring unfavorable publicity.

Q.—That Section 5 was the same Section 5 amended March 3, 1937? A.—This is November 1937, and therefore this refers to the final adoption in March; that is correct.

Q.—So, here you have a resolution to take care of the Group Health situation, and the thing you refer to is Section 5; isn't that so? A.—It is not to take care of Group Health Association at all; it is to take care of an intramural situation within the Medical Society which had to do with Group Health. Beyond that I will not go, because it is not true.

Q.—The resolving part of the resolution was referred to the Hospital Committee in the first instance? A.—That is right.

Q.—Why did you refer it to the Hospital Committee? A.—That is the first one that came into my mind. There was no ulterior motive in that. It was a group of physicians each one of whom was on the staff of a hospital, and who were therefore familiar with the situations that develop between staffs and hospitals, and so forth, and it seemed to me that they were the very group of men in the Society who would probably succeed in smothering this effort to send out this letter of which I disapproved so heartily.

Q.—You did not refer it to the Hospital Committee to smother the letter, did you? You moved this resolution in lieu of the letter, and that killed the letter? A.—I moved it in lieu of the letter, because I didn't want the letter—If this motion prevailed, the letter does not go out.

Q.—Precisely. A.—The letter I left in the hands of the Hospital Committee.

Q.—No, the letter has gone. A.—Well, I mean the letter matter is left—Toward whatever the letter was aimed is left in the hands of the Hospital Committee; and not being an officer or member of a committee of the Society, my responsibility was completed there, as far as I was personally concerned. If they had never reported it out, it would have suited me ideally.

Q.—You don't mean that you would refer it to the Hospital Committee for the Hospital Committee to deal with the letter, do you? A.—". . . to all phases of this subject," and naturally the purport of the letter and all phases of this subject could not refer to anything but the letter, and that was the matter of approaching the lay boards of the hospitals.

Q.—You knew that the Hospital Committee had one representative of the attending staff of each one of the hospitals, didn't you? A.—Oh, yes. Yes, I was thoroughly familiar with it.

Q.—So, if you were going to bring pressure, as you say, or any control over your members serving on the staffs, that would be the logical committee, and that was why you picked it out? A.—That is not true.

Q.—Do you mean to say you just picked out the Hospital Committee because it happened to be the first committee which came to mind? A.—I already explained that.

THE COURT:—He has explained his reasons for it. Let us not go back and start all over again, please.

Mr. Lewin:—All right, your Honor.

By Mr. Lewin:

Q.—Now, you wanted the Hospital Committee to make recommendations as to the best way of bringing this question to the attention of the Medical Boards. What did you mean by "this question"? A.—This question that was proposed in the letter. That was the reference to—What do you call it?

Q.—Group Health Association? A.—No, the section. Section 5?

Q.—Yes. A.—Yes.

Q.—Doesn't "this question" mean the Group Health Association question? A.—No, to Section 5, I suppose. Let me read it:

"Resolved, That the Hospital Committee be, and is hereby, directed to give careful study and consideration to all phases of this subject"

Now, this resolution was in lieu of the letter, and the subject was proper on the boards of various hospitals—

"and report back to the Society, at the earliest practicable date, its recommendations as to the best way of bringing this question to the attention of the medical boards and boards of directors of the various local hospitals in such a manner as to insure the maximum amount of practical accomplishment with the minimum amount of friction and conflict."

I can't say exactly as to what I had in mind. I can only say that if the Hospital Committee had brought in a report that the matter should be handled along the lines, for instance, I testified this morning that it had been at Garfield, about their letting them in upon determination—

Q.—Letting whom in? A.—The staff physicians.

Q.—Of whom? A.—G. H. A.

Q.—Oh. A. (Continuing)—Either give them privileges in the hospital if qualified—now, please note that: if qualified—or keep them out.

Q.—Do you say anything about it? A.—No, I don't say anything about it. You asked me what I had in mind. I am trying to tell you. I say if the Hospital Committee had brought in a report and said, "We recommend that these men all be excluded pending determination of the legality of their practice; or if they be found qualified, they be admitted pending determination of the legality of their practice," that would have satisfied

me a hundred per cent, because I thought it was the way the situation should be handled.

Q.—When you say, "That the Hospital Committee be, and is hereby, directed to give careful study and consideration to all phases of this subject," do you mean by this subject the Group Health Association controversy? A.—No, I meant the proposed approach to the hospitals.

Q.—Wasn't the only proposed approach to the hospitals in connection with Group Health? A.—I have already stated that.

Q.—The resolution reads:

"Resolved, That the Hospital Committee be, and is hereby, directed to give careful study and consideration to all phases of this subject and report back to the Society, at the earliest practicable date, its recommendations as to the best way of bringing this question to the attention of the medical boards and boards of directors of the various local hospitals,"

and there, by "this question," wasn't the question this approach to the hospitals in connection with Group Health? A.—In connection, first, with the Section 5 as it applied to Group Health, if you will say that.

Q.—I am agreeable to that. As applied to Group Health Association? A.—I think so.

Q.—As I have just stated, it was within a month that you got this Selders application? A.—I don't know when it was. I have no recollection of when it came at all.

Q.—Well, we went over that this morning.

THE COURT:—I think that has all been gone over—

The Witness:—If you are asking me if this resolution—

Mr. Laskey:—Wait a minute, Doctor; the judge is speaking.

THE COURT:—I say, I suggest you do not take that up again.

By Mr. Lewin:

Q.—Didn't Dr. Smith speak there in favor of your resolution in this way: Didn't he say he felt that this information could be conveyed to them orally, when they would have nothing to fight back with? Do you remember that? A.—No, I have no recollection of it, but it is apparently in the minutes. I suppose he said something like that. I have no control over what he said.

Q.—Do you remember Dr. Hooe, a defendant in this case, saying this:

" . . . he was of the opinion that Dr. Willson's substitute offered some sound points, one in particular that which suggests that this committee be composed of members of the hospital staffs. He thought it was inconceivable that the hospitals would not acquiesce to reasonable principles. Another objection he had to Dr. Willson's resolution was that the committee is delegated to take its time and report back to the Society."

Do you remember that discussion? A.—Only because I have read this over, and it has been recently refreshed in my mind. I have no control over what Dr. Hooe said.

Q.—Didn't you yourself say this with regard to the Sprigg letter, when you were urging adoption of your substitute:

" . . . he felt that the letter carried a veiled threat to the effect that if the hospitals did not comply the Society would unstuff them." A.—I think if it is there I certainly said it.

Q.—Did you continue and say that you hoped the Society could control its own members? A.—What did I say after that?

Q.—Sometimes you had a little doubt. A.—I had a great deal of doubt. That is the reason I introduced the resolution.

Q.—But you hoped for it? A.—I hoped the Society was important enough to its members so that they would stick with it rather than with anything else, but I doubted it and still do.

Q.—Right after that didn't you hear Dr. John A. Reed say that he was informed that every hospital in the city was cooperating with the medical profession against the Group Health Association, with one exception? A.—Well, I may have heard it. I have read it recently, but I have no independent recollection.

Q.—You remember a discussion of that character occurring? A.—I remember a discussion; that is all.

Q.—Then, you say, you were present on November 11, I believe, when the Hospital Committee reported? A.—That is my recollection, yes.

Q.—The chairman of that Hospital Committee was the defendant Warfield; is that so? A.—I believe so.

Q.—Wasn't he reporting pursuant to the requirements of your resolution, which had been passed? A.—Absolutely.

Q.—Do you remember that his report was rejected because it was not strong enough? A.—I remember it was rejected on a motion of somebody.

Q.—Wasn't it rejected because it simply said— A. (Interposing)—What was the language?

Q.—Well, let us find it.

"Dr. J. Ogle Warfield, Jr., chairman of the Hospital Committee, was recognized. He submitted the following report, pursuant to the resolution which was adopted by the Society on the evening of November 3."

That was your resolution? A.—That is my recollection.

Q. (Reading):

"In view of the resolution adopted by the Medical Society of the District of Columbia on the evening of Nov. 3, 1937 the Hospital Committee held a meeting, at my office, on the evening of Nov. 9, 1937 and recommends that the Medical Society of the District of Columbia send the following resolution to the Boards of Directors of those hospitals"—

A. (Interposing)—No, to the Medical Boards.

Q. (Continuing reading):

"to the Medical Boards of the various local hospitals for interpretation to the Boards of Directors of those hospitals."

A.—That was a change right there, you see, from the original proposal, which was a direct approach to the boards of directors.

Q.—You mean this was a direct approach? A.—No, the letter for which mine was a substitute was a direct approach to the boards of directors.

Q.—Your substitute contemplated approaching the boards of directors through the medical staffs? A.—Not at all. The original letter contemplated that. My motion tried to stop it being done.

Q.—Doesn't this do that same thing? A.—No: ". . . send the following resolution to the Medical Boards" of the different hospitals.

Q.—Isn't that what you advocated? A.—No, I didn't advocate any action; I simply made the resolution.

Q.—I don't know what your point was with regard to the letter. The letter was to go directly to the directors? A.—That is what I am trying to say. The Sprigg letter was to go directly to the directors.

Q.—You didn't like that? A.—I didn't like its going out at all. I didn't like its referring to Section 5, which, as I have testified, was not in my favor. Then, here, the original proposal was to approach the boards of directors. My resolution stopped that and referred the matter to the committee, and then the committee came in on November 11 and urged sending the following resolution to the medical boards of the hospitals, which is a different proposition.

Q.—Your resolution had pointed out that the way to approach the problem was through the medical boards? A.—No, that is not my recollection.

Q.—Except for the control exercised over the medical staffs? A.—Over its own members—control over its own members of the Society who happened to be serving on hospital staffs. That would include, of course, more than the medical board; it would include the courtesy staff as well.

Q.—And courtesy staffs have no influence as to who is to be elected to the staffs of hospitals? A.—No. My statement referring to the control of the Society over its members on hospital staffs included the attending staffs and the courtesy staffs.

Q.—This was what Dr. Warfield suggested: "That the hospitals accept patients from Group Health Association, Inc., provided that Group Health Association, Inc., is responsible for their financial obligations." A.—Yes.

Q. (Continuing):

"That these patients only be treated by the attending, associate, assistant and courtesy staff physicians of the respective local hospitals."

A.—Yes. Now, what is it?

Q.—That would mean, would it not, that the Group Health Association patients could be treated by people like Dr. Scandifio, who was on the courtesy staff of Sibley, for instance? A.—Yes, or—Yes.

Q.—Then, is it not true that one doctor in the discussion, Dr. Daniels, said that he was of the opinion that members of the local medical staffs of hospitals were required to be members of the Medical Society of the District of Columbia, and that he would inquire if any of the members of the staff of Group Health Association were now members of the Society? Do you remember that? A.—It is so recorded in the minutes. I have refreshed my memory of it recently; I have no independent recollection of it.

Q.—Don't you understand his point to be that under that resolution suggested by Dr. Warfield, or that communication suggested by Dr. Warfield, a man like Dr. Scandifio, who was still a member of the District Medical Society, might be a member of the courtesy staffs of some of the hospitals and, therefore, could treat Group Health Association patients? A.—

Yes. He apparently was trying to get information as to whether any of the staff of Group Health Association were still members of the Medical Society of the District of Columbia.

Q.—Didn't the chairman, Dr. Neill, give him that information and say—

Mr. Richardson:—We object to this examination as being simply a repetition of what is in the minutes.

THE COURT:—Yes. You are asking for his interpretation of what other men said in that meeting. You might as well ask for my interpretation or the interpretation of any other person in the room. After all, it is a matter of reading the language and getting the appraisal of the particular individual. It is not evidence at all. It is not proper cross-examination.

Mr. Lewin:—I am sure that the strict rule would confine a great deal of the examination to the contents of the documents, but I understood your Honor to—

THE COURT:—(Interposing) I will allow you to examine within reasonable points, Mr. Lewin, but I want to try to avoid your putting to other witnesses the words of some other person. When it comes to dealing with their own language, I want to give you considerable leeway, because that at times involves motive.

Mr. Lewin:—I was not suggesting that Dr. Willson said these things. I have been pointing out who said them, and I understood Dr. Willson was present.

THE COURT:—Well, I will have to sustain the objection.

Mr. Lewin:—May I ask this:

By Mr. Lewin:

Q.—Do you recall what Dr. Neill said in answer to that question? A.—No.

Q.—Could you refresh your recollection by looking at the minutes? A.—It would call up no recollection independent of the fact that I would assume the minute was correct if it were read to me. I would have no recollection of it, I am sure.

Mr. Lewin:—If I may, I should like to read that portion to the jury as a basis for questions.

THE COURT:—I do not think it can be the basis of questions unless it involved his own recollection. How could it be?

Mr. Lewin:—Because I think it leads up to something else: to what happened to that resolution, which was the outgrowth of his resolution.

THE COURT:—What is your question?

Mr. Lewin:—I should like to read now a paragraph of that which is in evidence already. I thought that was the procedure being followed.

THE COURT:—Well, read it and see what becomes of it.

Mr. Laskey:—In that connection, your Honor, the only question was whether it refreshed his recollection. He said he did not know it.

Mr. Lewin:—This is the procedure that has been followed on cross-examination time and time again because of these lengthy documents.

THE COURT:—That is very true, but there has got to be some limit. I have indicated the limit: that they are those things which bear upon the witness' own testimony, upon his own acts in those meetings, or his words—what he may have written or what he may have said—but it is going far beyond what I have ever intended, if you should read something there in the minutes that somebody else said and ask the witness on the stand to interpret it.

Mr. Lewin:—I was not asking for an interpretation.

THE COURT:—That is what it seems to come down to. I will sustain the objection.

By Mr. Lewin:

Q.—Do you know what happened to that resolution of Warfield's? A.—It was rereferred. I know that it was rereferred to the committee.

Q.—Do you know the grounds on which it was rereferred? A.—It was rereferred to the committee. I know there was some discussion about it, and my recollection is again refreshed from having read these things over in the last few weeks. There was a question as to whether the provision of the original report would cover G. H. A. physicians practicing at the hospitals—I mean some way to prevent their practicing, or would not prevent it; something of that sort. That is my recollection of it. It was along that line.

Q.—Then, wasn't a motion made by Dr. Yater to recommit it because there was no assurance given that Group Health Association doctors were not on the staffs? A.—That is my recollection.

Q.—Did you vote for it? A.—I have no recollection, Mr. Lewin. Let me see it. No, I have no recollection one way or the other. My best belief would be that I didn't, because it wasn't—because I wasn't in sympathy with that method of approach at all.

Q.—The resolution was seconded and finally adopted, according to the minutes. Do you know who seconded it? A.—No, I don't.

Q.—Isn't it true, then, that on December 1, when you were also present, Dr. Warfield's committee made a further report pursuant to that resolution recommitting it? A.—Yes. Well, Mr. Lewin. I remember distinctly having been present at the meeting of November 11. I have no independent recollection of having been at that meeting of December 1. I may have; I simply don't recall whether I was there or not.

Q.—But you do know, do you not, that pursuant to that report of December 1 the resolution was adopted? A.—Oh, yes. At least, I know that from the minutes, yes.

Q.—You do know that the effect of that was— A.—(Interposing) To call the attention—To request the medical boards of the hospitals to call the attention of the boards of directors to what I have now learned was the Mundt Resolution.

Q.—That meant, did it not, that if the hospitals adopted that, no person who was not made a member of your Society, or any person who should be expelled from your Society, would automatically lose his courtesy staff privileges or fail to gain them?

Mr. Laskey:—I object to that as calling for a conclusion.

THE COURT:—The objection is sustained.

By Mr. Lewin:

Q.—What was your understanding of the purpose of calling the hospitals' attention to the Mundt Resolution? A.—Well, Mr. Lewin—

THE COURT:—(Interposing) That is the same question, is it not?

Mr. Laskey:—The only difference is that now he asks him if it was not his understanding.

THE COURT:—It seems to me to be the same question.

Mr. Laskey:—We object to it.

Mr. Lewin:—Is the objection sustained to that question?

THE COURT:—Yes.

By Mr. Lewin:

Q.—Did you follow out the rest of the procedure followed by the Hospital Committee under that resolution? A.—I don't believe I understand your question, quite, Mr. Lewin. What procedure?

Q.—Did you know that later, in February of 1938, a resolution was passed by the Society, asking for a report on what the status of Group Health doctors was in the various hospitals? A.—I believe that that matter has again been refreshed in my memory from various minutes recently. I have no recollection of it. You misunderstand. The resolution I had made was just to prevent action by the Medical Society which I disapproved of. My interest has waned from there on. I have done my best to accomplish what I wanted, and I wasn't materially interested in the matter one way or the other.

Q.—Did you object to the later proceedings taken by the Hospital Committee and the Society after your resolution with regard to admitting Group Health doctors into hospitals? A.—Well, the proposal—As I have testified, I don't even remember being present at that meeting when it came up; and when it got to the hospital boards, as I testified this morning, it was apparently in my absence, and the first chance I had anything to do with it was when the medical board came back with the recommendation that we move to rescind it, and I moved to rescind it.

Q.—But you knew that there was such a recommendation at the time you were passing on Group Health doctors' applications? A.—No, I have no recollection of that at all. I don't even remember when I was passing on Group Health applications.

Q.—Didn't you know that if that recommendation was followed, Group Health doctors could not be in the hospitals, regardless of their personal qualifications? A.—It didn't make any difference what I knew about it. I was the one who moved that it be rescinded, so I couldn't have been very much in favor of it, since I moved to rescind it.

Q.—Well, did you ever move to rescind the action of the Hospital Committee? A.—What action?

Q.—The action of the Hospital Committee in sending out questionnaires and getting facts as to the status of Group Health doctors in the hospitals? A.—I don't even know. I was present at those meetings and had no interest.

Q.—I think you testified that you did not raise any objection to Dr. Scandiffo's treating babies whom you had delivered? A.—That is correct.

Q.—As a matter of fact, isn't the ordinary practice of an obstetrician to carry the case through until after the birth of the baby and then to give the case, as far as the health of the baby is concerned, up? A.—It varies greatly in different

jurisdictions and according to the practice of different individuals. I know one very prominent obstetrician in town who refuses to let a pediatrician get into the hospital over his dead body to look at a baby he has delivered. As far as I am concerned, as I told you this morning, the sooner I get rid of them, the better. But if there is no pediatrician in attendance—I mean if the patient—the father or the mother of the child—does not request a pediatrician, I naturally, to the limited extent of my ability with babies, keep track of them as long as they are in the hospital, to see that they are doing all right until they go home, and then I have them call a pediatrician.

Q.—But you do not call Dr. Scandifio yourself? A.—No, the patient calls him; I wouldn't call him in. I follow the usual procedure of telling the nurse to call him up. I never contact pediatricians.

Q.—You do not contact Dr. Scandifio yourself? A.—No, I have no recollection of having asked him.

REDIRECT EXAMINATION

By Mr. Laskey:

Q.—Dr. Willson, was your action in voting as you did with respect to Dr. Scandifio influenced or controlled by the fact that he was a G. H. A. doctor? A.—Not at all. It had nothing to do with it. It was controlled by the fact that he had violated, as I testified—he had violated provisions of the constitution. On this violation of Section 5 I was very reluctant to vote for his expulsion, because I disliked it so, but I did vote against him on the whole ground of the sustaining of charges of violating three or four different provisions of the constitution.

Q.—Was your action with respect to voting as to Dr. Selders, whether he should be admitted to the staff, courtesy or otherwise, of the Columbia Hospital, controlled or influenced at all by the fact that he was a G. H. A. doctor?

Mr. Kelleher:—We object to that as being leading, your Honor.

THE COURT:—The objection is overruled.

The Witness:—Will you repeat the question?

(The pending question, as above recorded, was read by the shorthand reporter.)

The Witness:—No. There was no question in my mind whatsoever that he was not qualified in his original application to do the work he requested to do; therefore, there was no necessity of the other thing coming up. When he separated his requests and came up—

THE COURT:—I would not go all through that again. The question is whether his connection with G. H. A. influenced you in any way.

The Witness:—No.

THE COURT:—That is his question.

By Mr. Laskey:

Q.—Who is Dr. H. J. Russell McNitt? A.—He is a member of the staff and one of the attending surgeons in gynecology at Columbia Hospital, now on duty with the army in Denver, and a member of the Washington Gynecological Society and a member of the Medical Society of the District of Columbia.

Q.—How long have you known him? A.—Oh, I should say fifteen years.

Q.—What do you know, if anything, about his qualifications to pass on the medical efficiency of a doctor who applies for hospital privileges?

Mr. Lewin:—That is objected to. There is no evidence that Dr. McNitt did pass on him. He simply transmitted the gynecological disapproval.

By Mr. Laskey:

Q.—Was Dr. McNitt a member of the gynecological board? A.—Society?

Q.—Society? A.—Yes.

Mr. Laskey:—I think that is some evidence that he passed on it.

Mr. Lewin:—Well, he was a member along with I don't know how many others.

THE COURT:—Mr. Laskey, the doctor has said that the society was made up of experts in that line.

Mr. Laskey:—Yes, I do now recall that in a general way.

Mr. Richardson:—There is just one thing further: Mr. Lewin intimated that all the doctor relied on was the letter of Dr. McNitt. I wanted to show that that was some reliance.

THE COURT:—Well, you may ask him what confidence he had in Dr. McNitt.

By Mr. Laskey:

Q.—Tell us what, if any, confidence you had in any recommendation that Dr. McNitt might make. A.—Well, I know Dr. McNitt very well, and I know of his work on the staff of

the hospital, and I also know that he is a diplomate of the American Board of Obstetrics and Gynecology, and that he has the highest evidence of professional ability in that specialty that any man can provide in the United States of America.

Q.—Just what does that mean? A.—It means that he has passed an examination before the American Board of Obstetrics and Gynecology—written, oral, and practical—and is certified as a specialist in obstetrics and gynecology, being competent to do so, and is limiting his work to that specialty.

Q.—Is that a national organization? A.—That is a national organization.

Mr. Laskey:—I will ask to have this letter of Dec. 30, 1937 from Dr. McNitt to Colonel Ashburn, marked as Defendants' Exhibit 51.

Mr. Laskey:—I will ask Mr. Richardson to read it.

Mr. Richardson:—This is under the letterhead of the Washington Gynecological Society, Washington, D. C., and is dated Dec. 30, 1937 from the Office of the Secretary:

DEFENDANTS' EXHIBIT 51

"Col. P. M. Ashburn
Supt. Columbia Hospital
Washington, D. C.

"Dear Col. Ashburn:

"I am directed to report on the following physicians whose names were submitted to the Society for advice, concerning qualifications for courtesy privileges on your staff: Drs. Oliver C. Cox, Richard Castell, Raymond Selders.

"We do not consider them qualified to do operative obstetrics.

"Sincerely yours,

"H. J. Russell McNitt, M.D.,
"Secretary."

RE-CROSS EXAMINATION

By Mr. Lewin:

Q.—Dr. McNitt, being a member of the staff at Columbia, was available to you right there in Columbia to pass on applications, was he not? A.—As far as his individual—You mean in an individual capacity?

Q.—Yes. A.—Oh, yes, yes.

Q.—It was not necessary in order to get his individual judgment on Dr. Selders, to send his application anywhere, was it? A.—No; that is correct.

The jury left and the attorneys conferred at length with the Court who gave them the following record of his decision:

DEFENDANTS OFFER OF PROOF

On the question of the illegality of Group Health Association, Inc., and the receipt by it from Home Owners Loan Corporation of \$40,000 illegally, the defendants offer to prove as facts and circumstances known to these defendants during the times herein involved:

1. The charter of Group Health Association, Inc., and the amendments thereto which are contained in a stipulation herein.

2. The By-laws of Group Health Association, Inc., and amendments thereto which were in effect during the period of the indictment and which are contained in a stipulation herein.

3. The facts known to these defendants pertaining to the actual operations of Group Health Association, Inc., which the defendants say tend to show that Group Health Association, Inc., was a corporation practicing medicine contrary to law and engaged in the business of insurance contrary to law. The said facts will show among other things the following:

(a) That Group Health Association, Inc., entered into contract with Home Owners Loan Corporation wherein it offered as a corporation to render and deliver to Home Owners Loan Corporation certain medical services therein described for a consideration of \$40,000.

(b) That Group Health Association, Inc., as a corporation contracted with its members to furnish them medical service, and that Group Health Association, Inc., did furnish medical service to its members.

(c) That Group Health Association, Inc., as a corporation employed doctors to work in a clinic, rented and operated by Group Health Association, Inc., there to treat and render medical service to the members of Group Health Association, Inc., pursuant to the contract between Group Health Association, Inc., and its members.

(d) That the trustees of Group Health Association, Inc., together with the lay administrator and other lay employees of Group Health Association, Inc., dominated and directed the rendering of medical service by Group Health Association to its members.

(e) That no doctor could be employed or discharged by Group Health Association, Inc., without the consent and approval of the board of trustees, all of whom were laymen.

(f) That Group Health Association, Inc., as a corporation, was practicing medicine and was not a broker which brought

together the members of Group Health Association and the doctors who rendered medical service to them.

4. That Group Health Association, Inc., was subsidized by Home Owners' Loan Corporation and received from Home Owners' Loan Corporation money and other things of value belonging to the United States, contrary to law.

5. That Group Health Association, Inc., entered into a contract with Home Owners' Loan Corporation wherein it promised to perform certain medical service for Home Owners' Loan Corporation and, in return, received money and things of value belonging to the United States, contrary to law.

6. The members of Group Health Association, Inc., assigned to Group Health Association portions of their salaries, due or to become due, from Home Owners' Loan Corporation, contrary to law, and that deductions were made from the said salaries by Home Owners' Loan Corporation and paid to Group Health Association, Inc., contrary to law.

7. Resolutions were passed by Home Owners' Loan Corporation authorizing contract and amended contract with Group Health Association, Inc., for the furnishing of medical service by Group Health Association to Home Owners' Loan Corporation, all without authority of law. That resolutions were passed by Home Owners' Loan Corporation approving By-Laws of Group Health Association, Inc., which in substance and in effect provide that said Group Health Association, Inc., should at all times have on its board of trustees at least two members thereof who were designated and appointed by Home Owners' Loan Corporation, all without authority of law.

8. That Home Owners' Loan Corporation received legal opinion from its attorneys in substance holding and conceding that Group Health Association, Inc., was engaged in the insurance business, contrary to law, and engaged in the practice of medicine, contrary to law, unless and until its By-laws were changed, and as a result thereof said By-laws were so changed, and that these alleged conditions, or part thereof, existed until at least May 2, 1938.

9. That the Acting Comptroller General of the United States held and found that the payments by Home Owners' Loan Corporation to Group Health Association were made and incurred without authority of law to the knowledge of the defendants. That said Acting Comptroller General also held and found that the aforesaid contract between Group Health Association, Inc., and Home Owners' Loan Corporation was a contract for the sale of medical service, contrary to law to the knowledge of the defendants.

10. That a duly authorized proper committee of the House of Representatives of the United States held and found that payments by Home Owners' Loan Corporation to Group Health Association, Inc., were an illegal diversion of the money of the United States, to the knowledge of the defendants.

11. That the United States District Attorney of the District of Columbia and the Corporation Counsel of the District of Columbia held and found that the operations of Group Health Association, Inc., were contrary to law up to the time of the entry of the decree in Group Health Association, Inc., vs. Moor, et al., to the knowledge of the defendants.

12. That several attorneys consulted by defendants advised that the operation of Group Health Association, Inc., was contrary to law, and defendants so believed.

13. That several attorneys consulted by defendants advised that Chapter 9, article IV, section 5, of the constitution of the Medical Society of the District of Columbia was a legal provision, and defendants so believed.

14. That several attorneys consulted by defendants advised that the Principles of Ethics of the American Medical Association and all thereof were legal, and defendants so believed.

15. That several attorneys consulted by defendants advised that they had a legal right to enforce chapter 9, article IV, section 5, of the constitution of the Medical Society of the District of Columbia, and defendants so believed.

16. That all of defendants' acts and doings were for the purpose of advancing their own interest and to protect their own society association rules of ethics and method of distributing medical services and to repel an assault on the same by Group Health Association, Inc., as distinguished from the purpose of restraint as alleged in the indictment.

17. That the defendants believed that the \$40,000 and other things of value paid by Home Owners' Loan Corporation to Group Health Association, Inc., was an illegal diversion of the money of the United States.

18. That belief on the part of the defendants that Group Health Association, Inc., was illegally engaged in the practice of medicine, had received public funds unlawfully, and illegally engaged in operating an insurance company, was in part the basis for the following acts of defendants:

(a) Enforcement of chapter 9, article IV, section 5, of the constitution of the Medical Society of the District of Columbia, by disciplinary proceedings.

(b) The issuance of the so-called "white list."

(c) Refusal, if any, to consult with the doctors employed by Group Health Association, Inc.

(d) Enacting and distributing a resolution of the Medical Society of the District of Columbia dated Dec. 1, 1937.

(e) The correspondence conducted between the defendants and between defendants and third persons relating to Group Health Association, Inc.

(f) Discussions, remarks, motions, and other pertinent acts of defendants, relative to Group Health Association, Inc., its doctors, memberships and operations.

19. That because of the belief of the defendants in the illegality of the operation of Group Health Association, Inc., and the illegality of the payment of certain moneys by Home Owners' Loan Corporation to Group Health Association, Inc., the acts and doings of defendants in the premises were reasonable argument and persuasion, or reasonable regulation of professional practice.

20. That the illegality or belief in the illegality of Group Health Association, Inc., brought into operation chapter 9, article IV, section 5, of the constitution of the Medical Society of the District of Columbia. The said section 5 is valid and it was and is lawful for the Medical Society of the District of Columbia to refuse to approve a contract between one of its members and a corporation illegally practicing medicine, or which it reasonably thinks is illegally practicing medicine. If this were not true, the Medical Society of the District of Columbia would be required to approve a contract between one of its members and a corporation illegally practicing medicine. The result of such an approval would subject the doctor in question and the Medical Society to a prosecution for violation of a law. The action of the Medical Society of the District of Columbia in refusing to approve such a contract is not evidence of a conspiracy in restraint of Group Health Association, Inc., but directly an effort to prevent its members from contracting with a corporation illegally practicing medicine. If the Medical Society of the District of Columbia cannot so enforce the provisions of its constitution it will be destroyed.

PRESENT RECORD ON ISSUE OF ILLEGALITY AND HOME OWNERS' LOAN CORPORATION PAYMENT

The illegality of Group Health Association, Inc., and of the Home Owners' Loan Corporation's payment to Group Health Association, Inc., are substantially in issue in the record.

The contract between Group Health Association, Inc., and Home Owners' Loan Corporation under and by virtue of which Group Health Association, Inc., sold medical service to Home Owners' Loan Corporation for \$40,000 has been widely discussed in the record. (R. 21, 24, 25, 561, 566, 589, 603, 632, 639, 692, 709, 729, 791, 794, 804, 810, 1395, 1536, 1537, 1551, 1696, 1705, 1724, 3524, 3581, 3607.)

The payment of \$40,000 made by Home Owners' Loan Corporation to Group Health Association, Inc., has also been developed in evidence. (R. 94, 603, 687, 702, 749, 810, 1720, 1772, 1773, 1774, 1778, 1783, 1784, 3519, 3598, 3612.) (And see U. S. Exhibits 203, 114, 112, 113, 136, 157, 159, 195, 196, 197.)

The question of the economic soundness of Group Health Association, Inc., due to the Home Owners' Loan Corporation's payment referred to, appears in the record. (R. 587, 588, 615, 686, 701, 748, 1472, 1723.)

The illegality of the operations of Group Health Association, Inc., has been substantially opened up in the record. (R. 737, 739, 795, 797, 1590, 1646, 1649, 1655, 1658, 1669, 1679, 1679-A, 1680, 1695, 1698, 1699, 1700, 1703, 1704, 1708, 1716, 1719, 1721, 1722, 1723, 1725, 1730, 1770, 1772, 1773, 1774, 1776, 1778, 1783, 1784, 1789, 1795, 2025, 2027, 2155, 2232, 2332, 2333, 2334, 2464, 3597, 3598, 3609, 3610.)

The Government offered evidence to show that the decision of Justice Bailey on the question of illegality was published. (R. 2025, 2027, 2500, 2572.)

Likewise the Government offered evidence to show that various hospitals based their action on the pending question of illegality. (R. 2452, 2025, 2027.)

The refusal of Group Health Association, Inc., to furnish copies of its By-laws and other pertinent information to defendants, and the necessity for revamping such By-laws to overcome apparent illegality also is developed in the record. (R. 794, 797, 798, 829, 600, 688.)

Testimony is in evidence showing illegal operations based on unprofessional practice as identified in the opinion of the Court of Appeals. (R. 317, 318, 321, 1444, 615, 742.)

The record citations noted establish that the issue of illegality, both with respect to the operations of Group Health Association, Inc., in the practice of medicine and the doing of an insurance business, as well as the illegality of payment received from Home Owners' Loan Corporation, appear at length in the minutes, correspondence, resolutions, and hospital testimony, which has been read to the jury. This is particularly true with respect to the correspondence of the officials of the American Medical Association and the so-called Woodward article, which has been offered and read to the jury by the Government.

The summary of evidence which we propose to introduce is intended to complete the issues before the jury under the testimony already submitted.

MEMO: RE DEFENDANTS' OFFER OF PROOF

The immediate question involves admissibility of certain evidence set forth in defendants' offer of proof. By understanding between court and counsel the offer covers in detail a broad range of evidence. In connection with evidence already in, it forms the basis for defendants' claim that Group Health Association, Inc., was illegally engaged in the practice of medicine. It is contended that the Anti-Trust Act does not embrace a business illegal in its nature, and that the restraints forbidden relate only to lawful trade and commerce.

Further, it is contended that even if it be held that Group Health Association, Inc., was not an illegal enterprise, nevertheless defendants honestly believed it to be so, and therefore in defense may rightfully justify their acts by proving such beliefs and the facts supporting them, including advice of their counsel, an opinion of the Comptroller of the Treasury and a report of a congressional committee. It is argued that evidence of this kind is material and competent to refute a criminal intent, by showing that defendants' acts were taken only to protect themselves, the profession and the public interests against supposed illegal activities of Group Health Association, Inc., and that if restraints did result they were under the circumstances reasonable.

The questions thus presented are important. The future course of the case awaits their determination. For obvious reasons my views must be but briefly stated.

1. As to illegality of Group Health Association, Inc., I do not think it was engaged in medical practice. It should be regarded merely as a convenient medium adopted by a group of persons for concerted action to secure for themselves and their dependents medical care on a fixed prepayment plan. The association did not render medical service. It simply provided the personnel and facilities pursuant to the corporate plan adopted by the members. Licensed physicians so employed treated the patients without interference of the lay officers. Nor were the cooperative non-profit features of the plan calculated to commercialize or exploit the practice of medicine. In an actual, realistic sense, which I think is contemplated by the "Healing Arts Practice Act," the doctors alone rendered the medical service. Only they were practicing medicine.

The situation was not altered by the contract whereby \$40,000 were furnished by Home Owners' Loan Corporation. If we assume the transaction to have been a wrongful diversion of public funds, that did not outlaw the business of Group Health Association, Inc., any more than would have been the case had a private trustee misapplied trust funds to the benefit of Group Health Association, Incorporated. However culpable, it would not have the effect of transforming the corporate business into a lawless venture.

2. I do not think evidence of defendants' belief as to illegality of Group Health Association, Incorporated, or the reasons on which it rested, is material. At best it could bear only on motive—not intent. However impelling the reasons which may lead one to commit a criminal act, they cannot legally justify or excuse, though they may mitigate. Motive, that ultimate desire or purpose which leads to the formation of the intent to do a prohibited act, is often easily confused with the intent itself; but the two are distinct, and only the latter presents a relevant issue. Then too, mistake of law will not ordinarily excuse. I do not understand that counsel dispute this general rule. But they do argue that one element of the offense here charged is a specific intent to restrain trade, hence that defendants' belief becomes material as bearing on the particular purpose alleged. I doubt that as defined by the statute the offense technically involves a specific intent; but if so, it is not of a nature to bring the case within the very limited field in which ignorance or mistake of law can legally bear upon the intent.

3. Further, I understand the argument to be that an honest and reasonable belief that Group Health Association, Inc., was operating illegally would, under the appellate court's decision,

afford the defendants a proper ground to justify restraints "as reasonable regulations of professional practice" to protect and support their standards, methods, and economic interests. But the thesis is too broad. The language of the court has reference to the right of medical societies to reasonably regulate and discipline their members, to the end of raising and maintaining high standards of medical practice. Control, of course, is over the members only, and that must be limited to reasonable restraints in their practice of the profession. Even within that field I fail to see how defendants' belief, or the grounds giving rise to it, can have any relevancy to a question concerning the reasonableness of such regulatory controls. Reasonableness of belief is not the issue.

4. Finally, it is urged that the belief of illegality would supply a reason to support defendants' right of persuasion and argument in protecting their standards of professional practice and their economic interests. Of course legitimate argument and persuasion was and is available in seeking those objectives. But the contention is beside the point, for no restraint based on argument and persuasion is alleged, nor could it constitute a legal charge.

The reasons stated lead me to the conclusion that the proof offered by defendants is not admissible on any of the grounds urged. Therefore the Government's objection is sustained and the offer rejected.

The offer of proof, as I have treated it, is the written paper filed March 14, 1941 as orally amended, revised and explained by counsel for the defendants. Many of the documentary items contained in the written offer are already in evidence. They can be dealt with later in keeping with this decision.

JAMES M. PROCTOR, Justice

Dated March 17, 1941.

(Whereupon, at 2:50 o'clock p. m., the court adjourned until Thursday, March 27, 1941, at 10 o'clock a. m.)

MARCH 27—MORNING

TESTIMONY OF DR. ELIJAH WHITE TITUS

DIRECT EXAMINATION

By Mr. Leahy:

Elijah White Titus said he has been a practicing physician in Washington since 1911. He graduated from George Washington University Medical Department in 1910. He had one year and three months at the Columbia Hospital for Women and in the fall of 1919 received an appointment as resident gynecologist of one of the hospitals in the city of New York and had one year there. He then began to limit his work to obstetrics and gynecology. From 1912 until 1919 he was assistant deputy coroner part of the time and deputy coroner part of the time. He belongs to the District of Columbia Medical Society and is a fellow of the Washington Gynecological Society and also of the Galen Hippocrates Society. In the gynecologic society he has held the office of president. He was chairman of a committee in 1937. Its primary object was to assist hospitals in determining the qualifications of applicants for the privilege of practicing on the hospital staffs. This committee was appointed by the society. The society felt that such a committee was necessary. The hospitals had a definite responsibility to the public in the men that they admitted to practice, and especially in the special branches. So the society approved a form letter which was sent out, inviting the hospitals, if they had applications to send them. The witness was made a member of that committee in 1936. Dr. Kane was chairman. The committee consisted of the witness, Dr. Jacob Kotz and Dr. Mundell. In 1937, in October, that committee was dismissed and the witness was appointed chairman of the committee along with other members—Dr. Kane, Dr. Kotz, Dr. Martel and Dr. Sylvester and was fairly active that year.

Q.—How long have you been on the staff of Columbia? A.—I have had some connection with the staff since I left there as a resident, which was in 1911. I now am one of the attending gynecologists and chairman of the medical board and at the present time I am a member of the board of directors of the hospital.

Q.—Do you recall now whether your committee which you just told us had anything to do with the investigation of the qualifications of Dr. Selders? A.—Yes. I remember that quite well.

Q.—Can you just tell us what your committee did toward determining the qualifications of Dr. Selders?

A.—Our committee received a request from Columbia Hospital for Women and we had a copy of the application which gave his references and, at the same time, made certain statements as to the amount of surgery which he had done, both in Houston, Texas, and Worcester, Mass. Shortly after we

received that communication we set out to follow up the references in Houston, Texas, and Worcester, Mass., and got replies from those sources.

Q.—Do you recall how many replies you received? A.—We received two.

Q.—Do you recall from whom you received them? A.—One was from Dr. Robert A. Johnson, a rather prominent obstetrician and gynecologist in Houston. The other was a letter from a Dr. Berry, one of the surgeons on the staff of the Worcester City Hospital, and it came to me through Dr. Edward Bullard of the surgical staff of the Women's Hospital, for this reason. I knew no one in Worcester. I knew Dr. Bullard was a very prominent man who got around a great deal, reading papers and visiting other medical societies, and he probably would have someone he knew there; and Dr. Berry was the man he wrote to, and he forwarded Dr. Berry's letter to me.

Q.—Did the letter from Dr. Johnson at Houston come directly to you? A.—It came directly to me.

Q.—Have you the letter here? A.—I have not.

Q.—Do you know where it is now? A.—Dr. Johnson made a request that the letter be destroyed.

Q.—Did you destroy it in accordance with that request? A.—Well, he gave his reasons why he requested it, and I did destroy it.

Q.—Why did he request you to destroy it? A.—His statement was that the contents of this letter were so unfavorable and he had made a frank statement of the thing, and he felt he would rather have it destroyed for those reasons.

Q.—Did you destroy it? A.—I did.

Q.—Without going into the character of the contents, were they favorable or unfavorable to Dr. Selders? A.—They were quite unfavorable. That is the reason he asked me to destroy it, he said.

Q.—Did you get any letter from Dr. Berry through Dr. Bullard? A.—I did.

Q.—What did you do with that letter? A.—I have it in my pocket.

Q.—Will you produce it, please? A.—There is a personal note here that I do not think you want (producing papers).

Q.—Is this (indicating) the one dealing with the qualifications of Dr. Selders? A.—Yes.

Q.—Do you have the original of this? A.—No; I never did have the original of it. The letter was addressed to Dr. Bullard and he made a copy and sent it to me.

Mr. Leahy:—If your Honor please, I offer the letter in evidence as Defendants' Exhibit 52.

DEFENDANTS' EXHIBIT 52

"Dr. Edward A. Bullard,
580 Park Avenue,
New York City, New York.
"Dear Cindy:

"Your letter comes inquiring about Dr. Raymond Selders. I have discussed him with the superintendent, Dr. MacIver and with one of the chief surgeons of the Worcester City Hospital. He was resident there from July 1, 1936 to July 1, 1937. The story goes that he was a graduate of the University of Oklahoma and then practiced in Dallas, Texas, for ten years. Apparently he took a surgical internship in there somewhere. Then he went to the University of Pennsylvania, where he had, they think, two years of a basic postgraduate course in surgery. He came from there here for the completing year in practical surgery.

"While here, he is listed as having taken active part in two hundred and seventy-three operations, one hundred and ninety of which would be classed as major and eighty-three as minor. Dr. MacIver does not know whether he did any more or whether he did all of these and they could not discover this point without going through all the records. This gives an approximate idea. One gets the impression that he is taking a good deal of time in preparation for his life's work. He is about 46 years of age and now contemplates further preparation. They think he has been married twice.

"The story while here in Worcester is somewhat as follows: when he first came, he seemed to feel the need of expressing his importance. He tried to convey the idea that the surgical interns should look to him for instruction and material. The discrepancy between his age and that of the interns exaggerated their objection to his policy and thus early in his residency there was engendered lack of harmony. This lack continued on through his year of service. He himself was somewhat of an emotional and breezy type which found everything going well some days, while at other times he acted out of sympathy with the world.

"This slightly unstable disposition was evidenced at times in his operative work. Sometimes he showed proper skill while at other times a seeming conceit led to careless and hasty surgery. The visiting men, either through this trait or through the animosity engendered among the house officers, hesitated to trust him with as much work as they would have liked to have done.

"In retrospect, these two men whom I talked with felt that much of his trouble was due to his failure to fit into the picture when he first came. If he had been a bit more thoughtful and patient, he would have gotten off on the right foot and then the resulting harmony would have carried him along in a happy way. Finding himself out of harmony, there was a tendency to get worse rather than better. They feel that perhaps they made a mistake in taking a man so much older than the interns.

"Dr. MacIver felt that he showed perhaps an average skill in his surgical work but that there was certainly nothing startling either about this

skill or about his constructive research efforts. He did not go to Dr. MacIver from time to time in a complaining spirit but stuck it out as best he could.

"I judge this picture fits somewhat with the opinion you have already formed about him. Placed under certain conditions I would gather that he could do good and faithful work, but put into a group that is somewhat self sufficient, where he is a stranger feeling it necessary to establish his own importance in the scheme of things, he might repeat the difficulty he had here and find his experience lacking in harmony and efficiency.

"I hope this report will help you. Both the men I talked with were anxious not to injure his chances for the appointment he is seeking. But I told them that you deserved as honest a statement as could be secured and I think I have correctly interpreted their feeling. Dr. MacIver felt that some of the staff liked him better than others and I judge that the member of the staff whom I picked was one of those who liked him the least. He would wish you to give the man all the credit you could. You will have to conclude as to whether this particular type of worker is fitted for the task he is seeking."

"Cordially yours,
"Gordon Berry, M.D."

(There was extended discussion of the possibility of securing a copy of the letter from Houston, Texas.)

Mr. Lewin:—Then I think we ought to wait for the letter to see whether we have any objections to it, rather than to have it characterized now.

THE COURT:—I assume it would be better to wait a reasonable time to see if it comes.

Mr. Leahy:—I am perfectly willing to wait. We have been trying to get it for a week.

By Mr. Leahy:

Q.—Doctor, acting on the information which you received, both from Worcester and from Houston, did your committee form a recommendation as to whether Dr. Selders should be admitted to privileges for general surgery? A.—We formed a conclusion, and on the basis of that conclusion we so advised the hospital.

Q.—Did you advise that Dr. Selders was qualified or unqualified? A.—Unqualified.

Q.—That was Columbia Hospital? A.—That was Columbia Hospital.

Q.—Were other hospitals similarly advised? A.—Our committee did not send any conclusion concerning Dr. Selders, as far as I can recall.

CROSS EXAMINATION

By Mr. Lewin:

Q.—Doctor, how much weight did you give this letter from Dr. Berry to Dr. Bullard which has been received in evidence, when your committee came to pass on the application of Dr. Selders? A.—I could not very accurately answer that in terms of percentages, but I will say we gave it less weight than the one that came from Houston.

Q.—But you did give this some substantial weight in arriving at your opinion, Doctor? A.—It influenced us to a certain extent, in view of the fact that we had received one a little stronger than that, from Houston.

Q.—How did you happen to pick out Dr. Johnson to write to? A.—I happened to know that he was a very prominent man in subjects of gynecology at Houston. I had met him.

Q.—Did Dr. Selders give his name as a reference? A.—No. He gave us on his application blank a statement saying that he had been in general practice in Houston for, I think, seven years, and in that time had performed something like four hundred and thirty operations. He did not classify them as to whether they were major or minor operations.

Q.—Of course on his application he gave Dr. MacIver's name as a reference, did he not? A.—Not on the application he sent to Columbia Hospital, I am sure.

Q.—Did you see the letter that Dr. MacIver sent to Colonel Ashburn of Columbia? A.—I did not.

Q.—That was not passed over to you at all? A.—No; it was not.

(The cross examination next covered the hospital connections of various members of the Committee.)

Q.—Did you know Dr. Selders personally? A.—Never saw him but one time, and that was one evening at Columbia Hospital that he had a case of labor. I didn't see him to speak with. I went up the hall and asked one of the nurses who that man was, and she said that was Dr. Selders. That is the only time I ever saw him.

Q.—You did not talk with him? A.—No, I did not. I was going in the other direction at that time.

Q.—Did you permit him to come before your committee? A.—We didn't invite him to, and I am sure he didn't make a request to.

(There was then some discussion of rumors concerning the case of Miss Tew.)

Q.—Were you an active member of the District Medical Society in the latter half of 1937? *A.*—I went out of office. I was chairman of the Hospital Committee for one or two years; I don't know when it was. Dr. Warfield succeeded me, if you have that record. And I hate to say it, but I think I have been there three times since. There is always something that interferes.

Q.—Do you remember the dates on which you attended meetings of the District Medical Society?

THE COURT:—I think this goes far beyond the direct examination. The cross examinations are quite long because they go beyond the scope of the direct examination.

Mr. Lewin:—Don't you think, your Honor, that a question of this kind bears on the interest of the witness?

THE COURT:—I think membership has been shown. You have shown that he was a member of the society. That may or may not influence him. It is in evidence that he was a member.

Mr. Lewin:—It would be interesting to me to know what meetings he attended in the fall of 1937 when Group Health was being discussed.

THE COURT:—I will not permit any such detailed cross examination as that. I will permit you to ask him whether he was concerned with any matter with reference to G. H. A. that dealt with Dr. Selders before this.

By Mr. Lewin:

Q.—Did you have any knowledge of the controversy with regard to Group Health Association in the District of Columbia Medical Society? *A.*—I did have. Not from attending meetings. I don't think I attended meetings of the District Medical Society while that was going on.

RE-DIRECT EXAMINATION

By Mr. Leahy:

Q.—Did you not tell us also that you had some other information with reference to Dr. Selders, the subject of which occurred at Columbia Hospital, which you also took into consideration?

Mr. Lewin:—He did not tell us that here.

Mr. Leahy:—I thought he did.

A.—I remarked that my impression was that this woman was transferred from Garfield, I believe, with the diagnosis of acute appendicitis, and the gentleman who took the case over for operation found—

Mr. Lewin:—Just a minute.

A. (Continuing)—something different.

THE COURT:—I think you better not go into that.

(The remainder of the re-direct examination dealt with reports of difficulty of Dr. Selders with operative obstetrics.)

RE-CROSS EXAMINATION

By Mr. Lewin:

Q.—Doctor, is it very unusual for an expert operator in gynecology to remark when he sees an abnormality that he has not seen one of those for a long time?

Mr. Leahy:—I object.

THE COURT:—Objection sustained.

TESTIMONY OF JAMES F. MITCHELL

DIRECT EXAMINATION

By Mr. Leahy:

James F. Mitchell said he has been a practicing physician and surgeon in Washington since 1903. In preliminary training at Johns Hopkins hospital in 1893 he was head nurse in the operating room as a medical student. He graduated in 1897 and stayed on until 1903. He is chief surgeon at Emergency.

Q.—How long have you been chief surgeon at Emergency? *A.*—I think it was 1919 I came back from France and took over there.

Q.—How long were you in France? *A.*—I was only four or five months.

Q.—In what capacity did you serve in France? *A.*—I was chief of surgery in the Evacuation Hospital No. 32.

Q.—In what part of France? *A.*—I was near Toul, and Sabastopol Hospital, near Lemar.

Q.—Do you hold any office on any of the boards of Emergency? *A.*—I am on the board of directors; executive and surgical staffs.

Q.—Just what are the duties or functions of the executive staff at Emergency Hospital? *A.*—The executive staff has to do mostly with the finances and business affairs of the hospital.

Q.—And the board of directors functions for what purpose? *A.*—The board of directors is the board of last appeal; they regulate everything.

Q.—You have an attending staff and a courtesy staff, do you, at Emergency? *A.*—Yes.

Q.—Doctor, do you know whether there are any particular rules or regulations governing the right of applicants for privileges on the courtesy staff at Emergency? *A.*—Yes, there are.

Q.—What is that rule? *A.*—The rule as it now stands was passed in April 1936. We had been having a good deal of trouble with people who were not competent coming in to do work, and we considered it quite a while, the matter of having some regulation to restrain this sort of thing. So that in April 1936 a resolution was passed by the board of directors that any applicant for courtesy privileges would have to present his application, show that he was licensed in the District of Columbia, show that he carries a medical degree, that he is a member of the Medical Society, and must present evidence of his ability to practice in the particular field for which he applies for privileges.

Q.—Do you recall who was on the board of directors when that regulation was passed? *A.*—I think there were fifty members; I couldn't name them all. Mr. Blair was president.

Q.—Now, Doctor, you stated that in accordance with that regulation one of the requisites was that the applicant for privileges should show that he was qualified. What steps were taken by the hospital to determine the qualifications of an applicant? *A.*—The procedure was this: a man first made application. That was turned over to what we call the Courtesy Committee, consisting of three men who investigated it to the best of their ability; then they reported to the staff and the name was brought up before the full staff at a meeting and the case was discussed; each man was gone over that way. Usually it was very simple. The man applying for medicine was referred to Dr. Kaufman. He would say, "I know him. I know he is good, very capable." That settled it. He was admitted to those privileges. If it was gynecology, Dr. Darner handled it in the same way. If, however, he was not known to any of them and we weren't satisfied as to his professional ability, then we would appeal to the Academy of Surgeons and they would give us a report on him, and he would be considered again.

Q.—Now, with reference to the qualifications, the one that applicants should be a member of the local Medical Society, did you vote for that regulation as a member of the board of directors when it came before the board? *A.*—I wasn't present at that board meeting; I voted for it at a staff meeting when it was brought up to present it to the board.

Q.—I think you stated one of the reasons why the regulation was adopted: could you tell us how, in your judgment, membership in the local medical society would take care of the situation of incompetents that you found existing at that time? *A.*—A man applies for membership in the medical society. His record is looked into there also and the fact that he is a member of the medical society shows that he is reputable, and that obviates the necessity for a good deal of investigation on our part.

Q.—Now, when was it, if you can recall now, Doctor, the hospital first availed itself of the privilege of the Academy of Surgery for the purpose of making investigations into the qualifications of applicants? *A.*—I think that was in 1937.

Mr. Lewin:—I was going to object to this as not relevant in view of the evidence already in the record. May we approach the bench?

Q.—Doctor, I think you were at the point in your examination where I was asking you with reference to the hospitals availing themselves of the facilities of the Academy of Surgeons, with reference to investigations into the qualifications of applicants for surgical privileges where the applicant was not known to the staff: do you recall that? *A.*—Yes.

Q.—Why was it that the hospitals sought the facilities of the Academy of Surgery in the investigation of the qualifications of surgeons? *A.*—Because the Academy of Surgery made these investigations and thereby saved us a great deal of work.

Q.—Do you recall when it was that the hospital first began availing itself of the facilities of the Academy of Surgeons? *A.*—I think in 1936.

Q.—Following the adoption of the rule that you have just stated requiring membership in the local medical society as one of the prerequisites to privileges, do you recall whether or not there were upon the staff of Emergency Hospital those who were not members of the local Medical Society? *A.*—You mean the courtesy staff?

Q.—Yes. *A.*—There were, probably, because originally there was no courtesy staff; we just allowed them to come in; and there were probably some very excellent men who had been coming in who were not members of the medical society, or were members of other medical societies. I don't know any

exactly; I couldn't name any to save my life, but it is quite possible there were.

Q.—But following the adoption of the rule in 1936, what was the policy of the hospitals with reference to new members who made application? *A.*—They had to be members of the medical society and present proper references as to their ability.

Q.—Do you recall whether you personally, Doctor, had anything to do with the consideration of the application of Dr. Raymond E. Selders for privileges at the hospital? *A.*—Yes.

Q.—Do you recall now for what privileges he applied? *A.*—I think general surgery and gynecology; in fact, all branches of surgery, as I remember it.

Q.—How broad are those privileges, Doctor, to practice general surgery and gynecology? *A.*—They are pretty broad; they would cover any branch of surgery.

Q.—Doctor, in your judgment what should be the qualifications of a man who is to be the sole surgeon for two thousand five hundred or three thousand persons to do general surgery and general gynecology?

Mr. Lewin.—Objected to. The issue is whether he had sufficient qualifications to get into the hospital, that is the only issue here.

THE COURT.—I think the question is as to the requirements of the hospital, and the considerations which went into the particular case and decision.

By Mr. Leahy:

Q.—What would be the considerations which would enter into the granting of privileges to an applicant for general surgery and general gynecology? *A.*—We don't grant privileges in two branches like that. A man is either a surgeon or gynecologist, an eye man or throat man. It is against our policy to let a man have more than one set of privileges.

Q.—A man who has made application to practice general surgery in the hospital: What considerations enter into the granting or refusal of that application? *A.*—We must have word from some one who knows him that he has done surgery, and good surgery, and is capable of doing surgery.

Q.—Do you recall whether Dr. Selders' application showed he was a member of the local medical society? *A.*—He was not.

Q.—Do you recall whether that matter was also discussed on the question of his application? *A.*—It was, yes.

Q.—When his application for surgical privileges was being discussed, did the fact that he was a member of the staff of G. H. A. enter into the discussion against him? *A.*—Not at all, sir.

Q.—Do you recall, Doctor, now, whether there was any correspondence had between your hospital and Mr. Penniman? *A.*—Yes, Mr. Blair wrote letters to him and he letters to Mr. Blair.

Q.—Have you any recollection now that you personally saw any such letters? *A.*—Yes.

Q.—I am going to show you three which have been introduced in evidence here, Government's Exhibits 370, 373, and 391. The first one, 370, is dated Nov. 15, 1937, on the letterhead of Emergency Hospital stationery, signed by Gist Blair. Would you look that over for us, please, Doctor, and see if you can identify it? *A.*—Yes, I remember this very well.

Q.—Do you recall what the letter was which was referred to in this communication, in which Mr. Blair says:

"Replying to your letter of November 8, requesting permission to admit patients who are members of Group Health Association, 'upon the request of the medical director,' and saying that Dr. Raymond E. Selders is on the staff of Group Health Association, I beg to say that Emergency Hospital has adopted, by its rules, a so-called courtesy list of physicians who are subject to the control of our staff under practically all conditions.

"This courtesy list is based upon certain fundamental requisites, laid down by our staff, and, while I have every friendly wish toward some of your objects, and feel satisfied that the executive committee and board of this hospital are in many ways sympathetic with the purposes of your organization providing medical and surgical care, and, when necessary, hospitalization in recognized hospitals of high standing, we do not feel at present that we can make any changes in our rules. This hospital, as are other hospitals in this city, is open to the reception of all patients.

"Dr. Selders or other representatives of Group Health Association must first be placed on our courtesy list before they can treat patients in this hospital. Your letter and Dr. Selders' credentials have been referred to the proper authorities."

A.—I do.

Q.—Now, Doctor, when he says that:

"Dr. Selders or other representatives of Group Health Association must first be placed on our courtesy list before they can treat patients in this hospital,"

was this rule applied any differently to the staff of Group Health Association than to any other applicant for privileges? *A.*—No, sir, that is our general rule.

Q.—This also is written to Mr. Penniman, William F., by Gist Blair, is it not? *A.*—Yes.

Mr. Leahy:—

"Dear Mr. Penniman:

"With further reference to your communications, requesting that Emergency Hospital furnish hospitalization to patients who are members of Group Health Association, Inc., I beg to advise that there can be no question about Emergency Hospital offering its services to any patient, regardless of color, race or creed, and its doors are open twenty-four hours every day throughout the year.

"However, as is consistent with every well regulated hospital, and in conformity with the rules of the American College of Surgeons, the Emergency Hospital does undertake to exercise authority and care to see that physicians, who are granted the privilege to treat patients on its premises, are qualified in every respect in their particular branch of the profession and are so recognized by the medical profession.

"In accordance with this idea, and in order to safeguard the patient, the Board of Directors, at its regular meeting, held April 17, 1936, unanimously adopted a resolution, providing that any physician who desires to treat patients in Emergency Hospital must make formal application, that his professional qualifications must be satisfactory to the professional staff, and as an index of his professional training and integrity that he must be a member in good standing of the District of Columbia Medical Society.

"The Emergency Hospital will be glad to have any physician make application for courtesy privileges, and if his qualifications meet our requirements, I feel sure that all privileges will be extended to him.

"Since Dr. Selders' application does not meet these requirements, the Board has not seen fit to grant him the privileges which he requested.

"Very truly yours,
Emergency Hospital.
Gist Blair, President."

By Mr. Leahy:

Q.—I want to ask you, Doctor, to what does it refer in this letter where it says:

"In accordance with this idea, and in order to safeguard the patient, the Board of Directors, at its regular meeting, held April 17, 1936, unanimously adopted a resolution, providing that any physician who desires to treat patients in Emergency Hospital must make formal application,"

et cetera.

Mr. Lewin.—Objected to as already covered.

Mr. Leahy.—I haven't completed my question yet.

Mr. Lewin.—I thought you had.

By Mr. Leahy:

Q.—How does the safeguarding of a patient have any relation to the resolution of April 17, 1936, adopted by your hospital?

Mr. Lewin.—That has already been covered.

Mr. Leahy.—Not by this witness. I haven't asked him about it.

THE COURT.—I thought it had, but let him answer it if there is any question about it.

The Witness.—Simply that we wanted to be sure men who had the privileges could render their patients the proper services.

Q.—Take Government's Exhibit 391, Doctor. This is another one of Feb. 3, 1938, from Gist Blair, this time directed to Mr. Kirkpatrick. *A.*—Yes, I remember this letter.

Q.—Now, was the result of this communication of Feb. 3, 1938, that you had this conference with Mr. Kirkpatrick which you stated you were present at? *A.*—Yes.

Mr. Leahy.—That letter states:

"Mr. dear Mr. Kirkpatrick:

"Your letter of February 2 has been received, and today the same was brought to the attention of the executive committee at its regular session at the hospital, and by resolution the committee authorized Dr. James F. Mitchell and myself to confer with you or any member of your board of trustees, and if you will telephone the superintendent at this hospital, and have arrangements made which will be convenient to Dr. James F. Mitchell, who is very much occupied, and myself, we will be glad to meet you.

"In your letter, relating to Dr. Raymond E. Selders, you suggest that your board of trustees meet with our board of trustees, and I would suggest that this is not practical since our board of trustees will not meet for several months, and matters of this kind are referred to our executive committee to decide what is advisable for the hospital to do under the circumstances.

"Very truly yours,
Gist Blair, President."

By Mr. Leahy:

Q.—Who attended that conference that you remember now?

Mr. Lewin.—It has all been covered. He stated Russell and Kirkpatrick, Blair and himself.

THE COURT.—Well, he may answer.

By Mr. Leahy:

Q.—Who attended that meeting? *A.*—Mr. Russell and Mr. Kirkpatrick; Mr. Blair and myself.

Q.—Do you recall what the subject matter of the conference was? *A.*—I remember very little about it, except they were urging the appointment of Dr. Selders to the courtesy staff.

Q.—On what ground? Do you now recall? *A.*—That I don't remember. Mr. Russell did most of the talking. Mr.

Blair was very sympathetic and told them again just what he told them before in his letters, and so on, that a man to do work there as a member of the courtesy staff had to fulfil certain requirements, which Dr. Selders did not do.

CROSS EXAMINATION

By Mr. Kelleher:

Q.—Dr. Mitchell, did you make the verbal communication yourself to the Washington Academy of Surgery? A.—No, sir.

Q.—Who did? A.—It was done through our secretary, Dr. Lyons.

Q.—As a matter of fact whatever communication the Washington Academy made concerning the application of Dr. Selders, that was not the ground on which he was denied privileges at Emergency? A.—It simply showed us he was not qualified.

Q.—Please answer my question: That was not the ground on which Emergency denied him privileges, was it? A.—The grounds were his qualifications.

Q.—The qualifications were that he was not a member of the Medical Society? A.—That was part, and also that he was not surgically qualified.

Mr. Kelleher:—Exhibit 663 are the minutes of the executive staff meeting of Emergency Hospital, Dec. 21, 1937. I will read only the last paragraph. The minutes show that Dr. Mitchell was present.

"Two letters from Mr. William Penniman, President, Group Health Association, Inc., were read. These letters requested, first, that patients of the Group Health Association be admitted to Emergency Hospital upon the request of Dr. Henry Rolf Brown, director, and, second, that Dr. Raymond E. Selders, surgeon, be permitted to attend these patients while hospitalized. The staff recommended that Mr. Penniman be informed that patients of the Group Health Association would be admitted to Emergency Hospital upon the request of Dr. Henry Rolf Brown, director, and that he be further informed of the regulation adopted by the board of directors on April 17, 1936, requiring that all physicians placed on the courtesy list must be members of the District Medical Society, and that since Dr. Selders is not a member of the District Medical Society, he could not be placed on the Courtesy List of the hospital."

By Mr. Kelleher:

Q.—Now, Dr. Mitchell, is it not true that this was the first meeting of the executive staff at which Dr. Selders' application was considered? A.—I really couldn't say.

Q.—Was there any discussion at this meeting of December 21 other than the facts as shown in the minutes? A.—I shouldn't think so; I didn't read them carefully.

Q.—And there isn't anything in the minutes to show that the recommendation of the Washington Academy of Surgery was considered? A.—Nothing there that I see. That was certainly not the only decision on Dr. Selders.

Q.—Isn't that the decision of the executive staff? A.—I imagine so, yes.

Q.—That decision was based on the fact that he did not have membership in the local medical society? A.—It was not by us, as I remember. That may have been sent to the society, but we always, in considering any man, consider his qualifications.

Q.—But, as a matter of fact, when Mr. Penniman was notified by Major Blair on Dec. 30, 1937, the ground stated was that he was not a member of the local society? A.—Does Blair say that in his letter?

Q.—Will you look at exhibit 373?

THE COURT:—That was read just a short while ago. That is what the letter stated. It does not do any good to ask the doctor about it. The letter itself shows what it says.

By Mr. Kelleher:

Q.—As a matter of fact, then, Dr. Selders was denied privileges because he was not a member of the local medical society? A.—One reason, yes, sir.

Q.—And the only reason given in the minutes and in the letter to him? A.—That may be.

Q.—You knew, did you not, that Dr. Selders was a member of the Harris County Medical Society and of the American Medical Association? A.—I saw that in his application, yes.

Q.—Will you identify this as the minutes of the meeting of Oct. 14, 1937, of the executive staff? It is a photostatic copy. Can you identify this as the minutes of that meeting? A.—Yes.

Mr. Kelleher:—U. S. exhibit 664 is a photostatic copy of the minutes of the regular meeting of the executive staff of Emergency Hospital, held on Oct. 14, 1937. From these minutes I read the following:

"Attention of the staff was called to the matter that occasionally an applicant for courtesy privilege will be a member of his local medical society, but not of the District Medical Society. It was ruled that ordi-

narly this would meet the requirement of the hospital that a man be a member of the District Medical Society."

By Mr. Kelleher:

Q.—Dr. Mitchell, as a matter of fact, with respect to Dr. Selders' application, this interpretation adopted on Oct. 14, 1937 was not applied, was it? A.—I beg your pardon; of the local medical society?

Q.—The interpretation put on that regulation of Emergency at the meeting of Oct. 14, 1937, that membership in another local medical society of the A. M. A. would ordinarily be sufficient. A.—Isn't it in his own local medical society, or is it another one?

Q.—"It was ruled that ordinarily this would meet the requirement of the hospital that a man be a member of the District Medical Society." A.—That is local.

Q.—Wasn't Dr. Selders a member of the Harris County Medical Society? A.—No, he was practicing in Washington.

Q.—Wasn't that his local medical society? A.—It had been; it wasn't then.

Q.—As a matter of fact, Emergency Hospital did not require that all applicants be members of the Medical Society of the District of Columbia? A.—Yes, of the local society of the district in which he was practicing at the time. We have men in Virginia, for instance, who are members there.

Q.—Finish your answer. A.—We have men in Virginia—neighboring Virginia—and neighboring Maryland who do not belong to the District Society but do belong to the local societies in the districts in which they are practicing.

Q.—Do you permit them to practice in Emergency Hospital? A.—We let them come to Emergency Hospital.

Q.—Isn't it also true that as late as June of 1938 there were members of the staff of Emergency Hospital who were not members of the local medical societies? A.—Not on the staff; they may have been courtesy; but I don't know, as I explained before.

TESTIMONY OF DR. A. MAGRUDER MacDONALD

DIRECT EXAMINATION

By Mr. Leahy:

A. Magruder MacDonald said he is a practicing physician in the District of Columbia. He graduated in 1915 from Georgetown University. He was at the Emergency Hospital as an intern and resident physician there for a period of two years. Subsequently he was superintendent of Casualty Hospital for a year. Subsequently he went into the service and was abroad, first with the British army and then with the American army, and returned to the States. He remained in the service at Camp Lee, was then discharged from the service, and then entered into the practice of medicine. He was appointed coroner in 1934. Prior to that time he had been deputy coroner, and prior to that, in the period from about 1920, he had been doing autopsies and postmortems for the District government in the coroner's office. He is on the council of Sibley Hospital, and on the staff at Casualty Hospital, and has privileges of treating patients in other hospitals in the city. His appointment on the council of Sibley was done at an interim; it was not done at the usual time of appointment of the staff of council. His recollection is that it was in March of 1937. At Casualty, he is classed as an associate in surgery. In 1937 he was on the intern committee, and in 1938 was on the credentials committee.

Q.—When you speak of the credentials committee, will you kindly tell us what the functions of that committee are or were in 1938, when you were a member of it? A.—My understanding of the functions of the credentials committee was to review the credentials of any individual who had been referred to it by the staff for their determination and recommendation to the staff.

Q.—Recommendation for what purpose? A.—For admission with the privileges of treating patients in that institution.

Q.—Do you recall when you first became connected with Casualty Hospital, Doctor? A.—I think it was in February of 1917.

By Mr. Leahy:

Q.—Doctor, do you recall whether or not while you were on the credentials committee at Casualty the application of a Dr. Raymond E. Selders came before your committee for investigation and report? A.—It did.

Q.—Have you any independent recollection of about when that application came before your committee? A.—Yes, it was in June, I believe, 1938.

Q.—Did you personally know Dr. Raymond E. Selders? A.—I did not. To my recollection, I have never seen the gentleman. If I have seen him, I didn't know who he was.

Q.—Do you recall now having made an investigation into or an examination of the qualifications of Dr. Selders? A.—The investigation that I made consisted of this: that certain letters and statements were presented to me for my consideration.

Q.—Did you pass on those letters in considering the qualifications? A.—I did.

Q.—Did you make your recommendation as to what those qualifications indicated? A.—I did.

Q.—Did you recommend for or against the granting of courtesy privileges to Dr. Selders at Casualty? A.—I recommended against.

Q.—On what was that recommendation based?

Mr. Lewin:—The recommendation is in evidence, in writing.

Mr. Leahy:—I think I may ask him on what he based his writing.

THE COURT:—The recommendation itself may be there, but he may ask him on what it was based.

Mr. Lewin:—I think the witness testified that he considered only certain letters that were laid before him. Now, they must have passed on those letters, and if those letters are in existence we ought to have them.

THE COURT:—It may have been based on his conclusions. If so, would he not have a right to state his conclusions?

Mr. Lewin:—I think they are in the written report.

THE COURT:—There is no objection to his stating the conclusions on which the recommendation was based. Suppose they had been stated in the letter; wouldn't they be evidence?

Mr. Lewin:—Yes.

THE COURT:—It may be that the letters should be produced if they are available. I am not passing on that.

Mr. Leahy:—Will you read the question, please?

The Reporter:

"Question. On what was that recommendation based?"

The Witness:—On my interpretation of these letters.

Mr. Leahy:—Do you have handy those letters that are in evidence?

Mr. Lewin:—We have copies of them.

By Mr. Leahy:

Q.—I am now going to show you copies of letters, Doctor, and ask you whether you can identify them as letters which you had before you. I cannot give you exhibit numbers, but I can give dates. One of them is dated April 25, 1938 and is from the Worcester City Hospital, Worcester, Mass. The other is from Dr. J. C. Alexander of Houston, Texas, and is dated April 28, 1938. A.—Yes, sir. These letters were the ones that I saw at that time.

Q.—Were there any other letters than those two which I have shown you which you now recall that you had before you? A.—My recollection is that there was another one. There were three.

Q.—Can you recall now from what other source that letter came? A.—The University of Pennsylvania. I think that is the letter.

Mr. Leahy:—While they are getting this letter dated April 27, I will read the letter dated April 25, 1938, from the Worcester City Hospital, over the signature of George A. MacIver, addressed to Miss E. M. Rogers, Superintendent of Casualty Hospital:

"Dear Miss Rogers:

"Dr. Raymond E. Selders served as surgical resident in this hospital for one year ending June 30, 1937, coming to us highly recommended from the Post-Graduate School of the University of Pennsylvania.

"He participated in the surgical work of the hospital considerably and had an opportunity to gain considerable competence. Our operating schedules show that two hundred and three cases were assigned to him for operation. This does not mean, however, that he actually performed these operations. He may have elected to assist in some of them. There is record that he actually performed and dictated one hundred and thirty-three operations, one hundred and five of which were classified as major. From the above I think you can conclude that his surgical training is such as to give him competence.

"Yours very truly,

"George A. MacIver,

"Superintendent."

This is the letter of April 28, 1938, from Dr. J. C. Alexander, in the Shell Building, at Houston, Texas:

"Dear Mr. Rogers:

"In reply to your letter regarding the qualifications of Dr. Raymond E. Selders, I beg to advise that his professional qualifications in surgery are well above the average and ethically and morally he has always been above reproach. During his several years of practice here he made many valuable lay and professional friends.

"He is now a member of the Harris County Medical Society here.

"Yours truly,

"J. C. Alexander."

By Mr. Leahy:

Q.—Doctor, here is the third letter which you mentioned. I will bring it to your attention. It is dated April 27, 1938 and is from the University of Pennsylvania. I will ask you if that is the letter to which you just referred. A.—Yes, sir.

Mr. Leahy:—That letter is a copy of an original on the letterhead of the University of Pennsylvania Graduate School of Medicine. It is addressed to the superintendent of Casualty Hospital.

"Dear Mr. Rogers:

"Dr. Raymond E. Selders was a student in the surgical group of the Graduate School of the University of Pennsylvania during 1935-1936, and he completed this basic year satisfactorily. He then went to Worcester, Mass., and spent a year in clinical training, and I understand that his work there was satisfactory to his preceptor.

"Personally, I know nothing about his ability as a surgeon beyond this basic training which he had in Philadelphia, and I am sure you have a full account of his training before he came here. This training, according to his records, was broad, and he is a man of mature age and general experience.

"Very truly yours,

"Walter Estell Lee."

By Mr. Leahy:

Q.—Doctor, as a member of the credentials committee of the Casualty Hospital, do you recall whether you had any other information with reference to the qualifications of Dr. Selders than what is set forth in these three letters, copies of which I have just brought to your attention? A.—I believe that during the discussion Dr. Caylor, who was on that committee, and who was connected with Providence Hospital, stated that the matter had also been referred by them to the Washington Academy of Surgery and that they had obtained an adverse report.

Q.—Doctor, what have you to say with reference to the sufficiency of the qualifications for one applying for general surgical privileges, as disclosed in those letters? A.—Well, from my observation, that a surgical resident usually performs those operations—

Mr. Lewin (interposing):—That is objected to. I do not think we ought to have testimony about general surgical residents.

THE COURT:—The question is what considerations entered into his findings with reference to this matter. He may state that.

The Witness:—I believe, your Honor, that was my intention, to state why: that in my observation the surgical residents perform these operations under supervision of the staff, and certain cases are allotted to them by the staff to perform. In other words, in my opinion, that action is not always independent. Now, it may have been in this particular case; I don't know; but I was going by a general rule, and it was my opinion that if that were true, this man should have had more actual contact with patients and responsibility before he went out into general surgery; that he should still serve an apprenticeship with some other surgeon for a period of time.

By Mr. Leahy:

Q.—Do you recall now, Doctor, whether you had any knowledge as to Dr. Selders' qualifications coming to you from anything which was done at Casualty Hospital? A.—I am not positive about anything of that nature.

Q.—Did you also serve in any capacity whatsoever in Sibley Hospital in passing on the qualifications of Dr. Selders? A.—I did.

Q.—By virtue of what office which you held in the hospital was it that you aided or assisted in the investigation into the qualifications of Dr. Selders? A.—As a member of the council. I was assigned to three committees and still am assigned to those three committees: the committee on surgery, the committee on x-ray, and the committee on laboratory. The method at Sibley Hospital consists of this: When an individual applies for courtesy privileges at the hospital, a form is sent to us, which is a notice that so and so has applied for courtesy privileges of major surgery and minor surgery—that is what is checked on my particular blank—and that full information is in the office. I received that in November of 1937, and my notation on that was this: "Not approved. Need more information"; because there was nothing there—no letters or no information—except this application of this individual, and I knew of nobody whom I could inquire from who had seen this man perform any operations.

Q.—Did you know of any source to which you could go in order to obtain information about Dr. Selders or his qualifications? A.—Well, as I say, that was not my particular duty. In referring back to the hospital, "more information" or "need

more," or something—that is the apparent reason that I gave. I mean by "apparent," I can't recall the exact words, but I wanted more information. Then the hospital's duty is to supply me and each individual of that committee with more information.

Q.—Do you recall whether or not any more information was ever supplied to you, Doctor, through Sibley Hospital? A.—The case, to my recollection, was never referred back to me after I had put in this original paper.

Q.—Doctor, in passing on the qualifications of Dr. Selders, and in coming to the conclusions which you reached at Casualty Hospital, what relation had those conclusions which you formed to G. H. A.? A.—I might state this: that I believe that I came out and said this: that in view of certain controversies that had existed over a period of months, those things should be discarded from our minds and that we should consider this applicant from the information at hand.

Q.—Who finally passes on the application? A.—First the staff and then the board of directors.

By Mr. Leahy:

Q.—In coming to your conclusions at Sibley, where you noted "further information required," or words in substance to that effect, what relation did you concluding that you needed further information bear to G. H. A.? A.—Well, I didn't know very much about G. H. A. at that time. I believe it was just being organized in November. I personally did not know the real function of the organization.

Q.—Did G. H. A. enter into your conclusions, as far as Sibley was concerned? A.—It was noted on this notice that was sent to me that this individual was an employee of G. H. A.; but having no information or recommendation, that did not enter into my mind at that particular time, because I wanted the information so that I could pass on him in justice to the man and to myself.

CROSS EXAMINATION

By Mr. Lewin:

Q.—Dr. MacDonald, there is in evidence, I believe, a letter from President Taylor, of Sibley, to Dr. Selders, dated Feb. 24, 1938, to the effect that his application had been again submitted to the executive committee of the medical council for reconsideration of their action in refusing same.

"I regret to inform you that the committee did not reverse its action, and your request has been refused."

Were you a member of that executive committee? A.—No, sir. No; I can explain that.

Q.—So, these references at Sibley, which were before the executive committee on the reconsideration, were not referred to you? A.—Not to me, no, sir.

Q.—Were they available to you, Doctor? A.—Yes. I think they could have been available to me if I had inquired about it, but they were not, because the executive committee is a separate committee, and I was only a subcommittee member. Can I explain that a little further?

Q.—Yes, indeed. A.—The chairman of each committee is a member of the executive committee, and I was only a sub-member of a particular committee; therefore, the executive committee action would not be known to me, because they have their meetings, and this other memorandum is sent out individually, which we carry into the hospital.

Q.—At the time you made your recommendation at Sibley, Dr. Selders' references had not responded; isn't that true? A.—Well, I would say that they weren't there.

Q.—I show you what purports to be a photostatic copy of the reference to you and your report. A.—That is my signature. "Not approved. Further information required."

Q.—That is dated Nov. 27, 1937? A.—That is right.

Q.—It says:

"Applicant's credentials on file in the office of the President.

"Attention of the committee is called to the fact that above applicant is one of the salaried physicians of the Home Owners' Loan Corporation Group Health Association and that information as to his qualifications and correspondence in connection with his application will be found on file in the president's office available to members of the various committees concerned for their information."

A.—Yes.

Q.—When you went to the office to do that, you found letters had been written but that the references had not responded? A.—I won't say that; I don't know when the letters went out. All that I can state is this that in the folder was the application and no other correspondence. I don't know where that other correspondence, if it existed, was kept; but in the folder was only the man's application and no letters.

Q.—As a matter of fact, you never saw the responses from his references at Sibley? A.—I did not.

TESTIMONY OF DR. JAMES A. CAHILL

DIRECT EXAMINATION

By Mr. Leahy:

James A. Cahill of Washington, a practicing surgeon, graduated from Georgetown University in 1915. Following graduation he was in St. Elizabeths Hospital, at Youngstown, Ohio; Providence Hospital, Washington, D. C.; Georgetown University Hospital, in Washington; and in the Army for two years. He is a Fellow of the American College of Surgeons, also the Washington Academy of Surgery. He is chief surgeon at the Georgetown University Hospital, chief surgeon at Providence Hospital, consulting surgeon at Gallinger Hospital, consulting surgeon at Columbia Hospital, and professor of surgery at Georgetown University School of Medicine.

Q.—Do you recall, Doctor, that in the year 1937 there came a time when you wished to establish a residency in surgery in both Georgetown and Providence Hospitals? A.—I do.

Q.—Have you an independent recollection, so that we will not have to take the time to get the documents out to show you, of the fact of writing to any one in connection with that matter? A.—Yes, I have.

Q.—To whom did you direct your correspondence? A.—I wrote a letter to Dr. William Cutter, in Chicago. He is the head of the Council on Medical Education of the American Medical Association. I wrote to him requesting an inspector.

Q.—Did you request Dr. Cutter to do anything with respect to your establishing these residencies? A.—Yes, I did. I asked Dr. Cutter to inspect both the Georgetown University Hospital and the Providence Hospital with reference to approving the residency in surgery at both of those institutions.

Q.—Doctor, at the time you made this request for approval of both Providence and Georgetown hospitals, did your request have any connection whatsoever with G. H. A.? A.—I never heard of G. H. A. at that time. This request came along in January, as I recall, of 1937.

Q.—Did there finally come a time when such an inspection was made of the hospitals? A.—Yes, there was.

Q.—Did you personally come in contact with anybody who made this inspection? A.—I came in contact with Dr. Peterson, who was sent by Dr. Cutter.

Q.—Do you know whether Dr. Peterson investigated or made an inspection of both Providence and Georgetown hospitals? A.—He did.

Q.—Did you at that time discuss the matters with Dr. Peterson? A.—I did.

Q.—I will put the question directly to you, Doctor: Did any of your discussions relate to anything at all about G. H. A.? A.—None whatsoever.

Q.—Do you know about the Mundt Resolution, so called? A.—I don't know the Mundt Resolution as such; I couldn't recite it; but I have heard of such a resolution.

Q.—Do you recall now whether there came a time when Dr. Peterson made a report of what he found on the inspection of those two hospitals? A.—Yes, there did come a time.

Q.—Do you recall whether that report came under your official attention and for your official consideration? A.—It came under my consideration.

Q.—Without going into details about the report with respect to either or both of the hospitals, Doctor, do you recall whether any suggestion was contained in a letter transmitting the report with reference to members of the staffs of local hospitals being members of the local medical society? A.—Yes, in that letter there was a suggestion made that the members of the staff at the Providence and Georgetown Hospitals should become or were asked to become members of the local society—the Medical Society.

Q.—You, I take it, are also on the staffs at both Providence and Georgetown? A.—I am.

Q.—Which staff were you on in either or both of the hospitals? A.—Surgical.

Q.—Do you recall whether the report which we have just referred to came under the attention of the staffs—the surgical staffs—of both those hospitals? A.—The report came under the consideration of the surgical staff and also the general staff.

Q.—Are you on the general staffs of both hospitals? A.—Yes, I am; the executive staff.

Q.—So, the question about this request or suggestion that the members of the staffs should become members of the local Medical Society came before the staffs for discussion? A.—That is right.

Q.—I will ask you, Doctor, if you considered that there was any threat contained in the resolution which was set forth in the letter transmitting these reports, that approval would not be accorded you unless all the members of the staffs became members of the local society.

Mr. Lewin:—I object to that. The letters speak for themselves.

Mr. Leahy:—The letters definitely speak for themselves; it is the interpretation which we want to show, if your Honor please.

Mr. Lewin:—He did not write the letters.

THE COURT:—I think he may state whether or not they regarded that as a requirement.

The Witness:—There was absolutely no threat, there was no coercion, there was no duress—

Mr. Lewin:—That is objected to. That is not answering the question.

The Witness:—I am making my answer emphatic; I beg your pardon, sir.

Mr. Lewin:—I move that it be stricken out.

Mr. Leahy:—No.

Mr. Lewin:—That is outside the scope of your Honor's ruling.

THE COURT:—I think it comes within the scope. Perhaps it is a little broad, but the question is whether they acted under the feeling that they were required to do it; whether there was any element of coercion, so far as they were concerned; whether they acted freely, without any such feeling. I think that is appropriate.

Mr. Lewin:—But do you not think it ought to be confined to how this doctor acted?

THE COURT:—Unless there was a discussion in the meeting which expressed the views of other members. I think then he may state it.

By Mr. Leahy:

Q.—Doctor, were you present at the staff meetings when this suggestion was discussed, if it was discussed at the staff meetings? *A.*—Yes, I was.

Q.—I will ask you whether or not the staff of each hospital finally voted on the suggestion.

Mr. Lewin:—Just a minute, Doctor. I think the minutes would show what happened in the staff meetings, your Honor.

Mr. Leahy:—Well, they do; that is true.

Mr. Richardson:—What is the difference?

Mr. Lewin:—Can you show any minute which shows that?

Mr. Richardson:—There is no best-evidence rule with respect to minutes, and you know it.

THE COURT:—I think the best evidence rule as to such matters applies only when you are attempting to impress some obligation of liability on a corporation; but for general purposes, whoever was there and would have heard what went on is a proper witness. There is a distinction in the best-evidence rule, but it is rather narrow. If the hospital were being sued with respect to some such action, then, of course, the best-evidence rule would be applied with regard to the obligation of the hospital.

Mr. Lewin:—May we have fixed the time of this meeting, so that we may have some access to the minutes?

MARCH 27—AFTER RECESS

TESTIMONY OF DR. JAMES A. CAHILL

DIRECT EXAMINATION (RESUMED)

By Mr. Leahy:

Q.—Doctor, just before luncheon I think I was asking you whether or not the recommendation which was contained in the letter which accompanied the report to Providence Hospital was considered by the staff at Providence Hospital? *A.*—Yes, sir; it was.

Q.—Were you present at the time it was considered? *A.*—Yes; I was.

Q.—What was the consideration given to the recommendation of the American Medical Association in the letter which accompanied the report on the inspection of the hospital? *A.*—That they were willing to cooperate in helping to make the hospital better.

Q.—What if any consideration was given to it as a threat that unless cooperation were given the approval of the residency would not be granted?

Mr. Lewin:—Objected to. It has been covered. He said the hospital was willing to cooperate.

THE COURT:—Objection overruled.

A.—There was no threat.

By Mr. Leahy:

Q.—Do you recall whether, as a result of the inspection which was made of Georgetown Hospital on its application for a residency in surgery there, that letter which accompanied the report was likewise considered by any members of the staff of Georgetown Hospital? *A.*—It was considered by the staff.

Q.—Were you present at the staff meeting at which that was considered? *A.*—Yes; I was.

Q.—What consideration was given to that recommendation? *A.*—The same consideration—they were willing to cooperate.

Q.—Did the staff consider that there was any threat contained in the letter which accompanied the report? *A.*—There was no threat.

Q.—Subsequently, Doctor, was Providence Hospital approved for the residency in surgery? *A.*—The Georgetown University Hospital was approved first. Providence Hospital was asked to make certain changes for the betterment of that institution, and then it was approved.

Q.—And then it was approved? *A.*—Yes; it was.

Q.—Do you recall when it was that Georgetown was approved, Doctor? *A.*—I couldn't say exactly; I don't recall the date, but I know that Dr. Peterson—it was after the first inspection, and then an inspector came later to inspect Providence, and after that inspection they were approved.

Q.—Do you recall, Doctor, whether at Georgetown a rule was adopted in substance to the effect that members of the courtesy staff should be members of the local medical society also? *A.*—There was a rule passed asking them to become members of the District Medical Society.

Q.—Do you recall whether there was a rule adopted at Providence? *A.*—They had the same rule adopted there.

Q.—Do you recall, as a matter of fact, whether all members of the courtesy staff of Providence Hospital are members of the local District Society? *A.*—No; they are not. I mean, there are members on the staff now and were members of the staff then, at the time of the inspection, that were not members of the District Medical Society or the American Medical Association.

Q.—Is that true with reference to Georgetown Hospital? *A.*—It is true.

Q.—Doctor, we have had some evidence here with reference to questionnaires which were sent out by the Hospital Committee of the District Medical Society. Do you recall whether or not at any time any questionnaire was received by Providence and considered by the staff of Providence? *A.*—I never saw a questionnaire at Providence.

Q.—Did you ever see a questionnaire at Georgetown? *A.*—I never did.

Q.—Do you recall, Doctor, now, whether at any time the so-called Mundt Resolution has even been used against anybody on the staff of either Providence or Georgetown? *A.*—No; it has never been used.

Q.—In the adoption of the so-called Mundt Resolution, either at Georgetown or at Providence, did it have any connection whatsoever in its adoption in the board meetings which you have told us about, with G. H. A. or any members of the staff of G. H. A.? *A.*—Not at all.

Q.—Do you recall whether or not in the discussions with reference to the adoption of a regulation that membership in the local medical society should be asked of those on the courtesy staffs, what it was which induced the members of the board to adopt such a resolution?

Mr. Lewin:—What resolution is that?

Mr. Leahy:—That they should be members of the local medical society.

A.—It was believed that the members of the local medical society should be members in the practice of medicine who were interested in advancing the betterment of the hospital so that patients could be treated better and so that advancements in science could be recognized when they were brought out.

CROSS EXAMINATION

By Mr. Lewin:

Q.—Dr. Cahill, do I understand that sometime after the receipt of Dr. Cutter's letter the Georgetown Hospital for the first time required membership in the District Medical Society for its courtesy staff? *A.*—After Dr. Cutter's letter; yes.

Q.—Is the same thing true with regard to Providence Hospital? *A.*—The same thing would be true regarding Providence. They asked their cooperation.

Q.—And then for the first time you put that rule into effect with regard to Providence? *A.*—I think that is true.

(To be continued)

OFFICIAL NOTES

RADIO BROADCASTS

The next three programs to be broadcast in the series "Doctors At Work" are as follows:

- May 7. So Mothers May Live.
- May 14. Physician to the Community.
- May 21. The Doctor in Arts and Letters.

The program is scheduled over the Blue Network of the National Broadcasting Company Wednesday at 10:30 p. m. eastern daylight saving (9:30 eastern standard) time (9:30 Chicago daylight saving, 8:30 central standard, 7:30 mountain standard, 6:30 Pacific standard time).

ADDRESSES BY OFFICIAL STAFF

DR. PAUL C. BARTON:

- May 12—Dane County Medical Auxiliary, Madison, Wis.
- May 14—George Williams College, Chicago.
- May 20—LaVerne T. Perrottet Post, American Legion, Wheaton, Ill.

DR. W. W. BAUER:

- May 3-5—National Education Association Yearbook Commission, Philadelphia.
- May 6—High School Assembly, Greensburg, Pa.
- May 6—Rotary Club, Greensburg, Pa.
- May 6—Westmoreland County Medical Society, Women's Auxiliary and Hospital Auxiliary, Greensburg, Pa.
- May 8—Cudahy Health Department, public meeting, Cudahy, Wis.
- May 12—Indiana University Convocation, Bloomington.
- May 19—Hampden County Tuberculosis and Health Association, Springfield, Mass.
- May 20—National Congress of Parents and Teachers, Panel, Boston.
- May 21—National Congress of Parents and Teachers, Panel, Boston.
- May 23—Wisconsin Alumni Association, Madison, Wis.
- June 3—Joint Committee of the National Education Association and the American Medical Association Symposium, Cleveland.
- June 4—American Medical Association, Woman's Auxiliary, Cleveland.

DR. MORRIS FISHBEIN:

- May 5—Executives Club, Asheville, N. C.
- May 6—Executives Club, Columbia, S. C.
- May 7—Executives Club, Augusta, Ga.
- May 8—Executives Club, Montgomery, Ala.
- May 9—Executives Club, Mobile, Ala.
- May 10—Julius Friedlaender Fund, Columbus, Ga.
- May 12—West Virginia Medical Association, Charleston.
- May 13—Woman's Auxiliary West Virginia Medical Association, Charleston.
- May 13—Executives Club, Bluefield, W. Va.
- May 19—North Dakota Medical Association, Grand Forks.
- May 22—Executives Club, Nashville, Tenn.
- May 22—Radio Address WSM, Nashville (5 to 5:15 p. m.).

DR. FRANK H. LAHEY:

- May 1—Edwin A. Jarecki, Memorial Lecture, Jewish Hospital, Philadelphia.
- May 7—Essex North District Medical Society, Centennial Meeting, Lawrence, Mass.
- May 13—American Association for the Study of Goitre, Boston.
- May 14—New Hampshire Medical Society, 150th Anniversary, Manchester, N. H.
- May 15—National Gastroenterological Association, New York.
- May 20—Society of State of North Carolina, Pinehurst, N. C.
- May 21—Massachusetts Medical Society, Boston.
- May 28—Rhode Island Medical Society, Newport, R. I.

DR. PAUL A. TESCHNER:

- May 8—Fair Oaks Presbyterian Church, Oak Park, Ill.
- May 12-15—Texas State Medical Association, Fort Worth.

DR. NATHAN B. VAN ETEN:

- May 10—Polyclinic Medical Society, New York.
- May 15—Iowa State Medical Society, Davenport, Iowa.
- May 21—Massachusetts Medical Society, Boston.
- May 25—American Jewish Physicians Committee, New York.
- May 28—National Board of Fire Underwriters, New York.

EXHIBITS FROM HEADQUARTERS

- May 1 —School Health Review, Joliet, Ill.:
Human Factory.
Your Personal Health.
- May 3-5 —Wayne County Chiropractic Society, Detroit:
Posture.
- May 5-8 —California Medical Association, Del Monte (annual meeting):
Dangers of Self Diagnosis and Self Medication.
"Patent Medicine" Testimonials.
Silicosis and Pneumoconiosis.
- May 5-8 —Nebraska State Medical Association, Lincoln (annual meeting):
Syphilis.
- May 7-12 —New Haven Hospital, New Haven, Conn.:
Respiratory System in Health and Disease.
Food Fads.
- May 9-12 —Iowa State College of Agriculture, Ames:
Pathology of Tularemia.
Spread and Control of Tularemia.
- May 10-18—Phillips-Exeter Academy, Exeter, N. H.:
Human Factory.
- May 12-14—West Virginia State Medical Association, Charleston (annual meeting):
Human Factory.
Heroes of Medicine.
Information About Syphilis.
Heart Disease.
Prevention of Burns.
Medical Discoveries.
- May 12-15—Kansas Medical Society, Topeka (annual meeting):
Cutaneous Granulomas.
Cutaneous Manifestations of Syphilis.
Hygeia Exhibit.
- May 12-15—Texas State Medical Association, Fort Worth (annual meeting):
Use and Abuse of Barbiturates.
- May 12 —Parkland Hospital, Dallas, Texas:
Your Health.
- May 12 —Sedgwick County Medical Auxiliary, Wichita, Kan.:
Information About Health.
- May 13-16—Georgia Medical Association, Macon (annual meeting):
Hospital Exhibit.
- May 15-20—Tehama County Fair, Red Bluff, Calif.:
Dangers of Self Diagnosis.
"Patent Medicine" Testimonials.
- May 15-30—Cleveland Health Museum, Cleveland:
Periodic Health Examinations.
Dangers of Self Diagnosis.
Your Personal Health.
The Public Health.
Your Bones and Muscles.
- May 19-21—North Dakota State Medical Association, Grand Forks (annual meeting):
Spread and Control of Tularemia.
Anesthesia.
- May 20-22—Illinois State Medical Society, Chicago (annual meeting):
Mechanical Nostrums.
Use and Abuse of Barbiturates.
Cutaneous Manifestations of Tuberculosis.
Hygeia Exhibit.
- May 22-24—Minnesota State Hospital Association, St. Paul (annual meeting):
Prevention of Eye Injuries.
Prevention of Accidents.
- May 26-28—Minnesota State Medical Association, St. Paul (annual meeting):
Physical Therapy.
Prevention of Eye Injuries.
Prevention of Accidents.

THE CLEVELAND SESSION

Symposium on Health Problems in Education

The Symposium on Health Problems in Education, under the sponsorship of the Joint Committee on Health Problems in Education of the National Education Association and the American Medical Association, together with the Section on

Ophthalmology, the Section on Laryngology, Otology and Rhinology, the Section on Pediatrics and the Section on Preventive and Industrial Medicine and Public Health of the American Medical Association, will be held in the Ball Room, Fourth Floor, Cleveland Public Auditorium, at 2 p. m., Tuesday, June 3.

MEDICAL LEGISLATION

STATE MEDICAL LEGISLATION

Florida

Bills Introduced.—H. 156 proposes to enact a separate massage and physiotherapy practice act and to create an independent board of massage and physiotherapy examiners to examine and license applicants for licenses to practice massage and physiotherapy. While the bill proposes to permit such licentiates to utilize numerous agencies of physiotherapy, it does not permit "methods or instruments for diagnostic purposes, nor permit the use of the x-ray." H. 245 proposes to establish at Avon Park, in Highlands County, an additional state institution for the curable cases of mentally deranged persons. H. 256 proposes to appropriate \$10,000 annually to the state board of health for distribution of insulin to persons suffering from diabetes or kindred diseases and who are financially unable to purchase the drug. H. 274 proposes to require "all doctors and midwives . . . to use an effective solution of silver-nitrate in the eyes of every new born baby." H. 283 proposes to require each party to a proposed marriage, as a condition precedent to obtaining a license to marry, to present a certificate from a licensed physician (1) that within twenty days next prior to the application for a license to marry he has examined the party as to the existence or nonexistence in such person for venereal diseases and (2) as to whether or not the party is suffering from any communicable venereal disease, as nearly as may be determined by a thorough examination and by the application of recognized clinical laboratory tests of scientific research. H. 294 proposes to require every expectant mother at least six months prior to the expected date of birth of the child to submit to a physical examination by a licensed physician to determine whether or not the mother has any disease that may be communicated or transmitted to the offspring. A physician making such physical examination is to furnish any treatment that may be indicated. If, however, the expectant mother is an indigent person, the physician is to certify the fact to the state board of health, which is to arrange immediately for necessary treatment. Any midwife who may be called into attendance on any expectant mother must call into attendance a duly licensed physician, if the examination referred to has not as yet been made. H. 472 proposes to require the annual examination of domestic servants to determine the presence of contagious, infectious or communicable disease.

Illinois

Bills Introduced.—S. 412 proposes a procedure whereby the state may reimburse nonprofit hospitals caring for indigent persons injured in motor vehicle accidents. S. 411 proposes that any surplus remaining in the state treasury after the principal and interest on road bonds have been paid from the receipts of motor registration fees shall be used to finance the reimbursement to nonprofit hospitals called for in S. 412. S. 417, to amend the Uniform Narcotic Drug Act, proposes so to define narcotic drugs as to include barbitol, as defined in the bill.

New Jersey

Bills Introduced.—A. 402 proposes to prohibit any person other than a licensed physician from treating or prescribing for a case of venereal disease and any person, other than a licensed pharmacist, from dispensing or selling a drug, medicine or remedy for the treatment of such a disease. The bill further proposes that such medicine or remedy shall be supplied only on the prescription of a duly licensed physician. Nothing in the bill, however, is to prevent a physician, if he deems it advisable, from dispensing any drug, medicine or remedy for the treatment of a venereal disease under his immediate supervision. A. 408 proposes to penalize any person, firm, corpora-

tion or association who publishes, delivers or distributes an advertisement concerning a venereal disease, lost manhood, lost vitality, impotency, sexual weakness, seminal emissions, varicocele, self abuse or excessive sexual indulgence.

MEDICAL BILLS IN CONGRESS

Changes in Status.—S. 194 has been ordered reported by the Senate Committee on Education and Labor, proposing to authorize research by the United States Public Health Service with respect to the cause, diagnosis and treatment of dental diseases. S. 1290 has been reported to the Senate, providing that any person, whether or not in the employ of the United States, who shall furnish blood from his or her veins for transfusion into the veins of a person entitled to and undergoing treatment at government expense, whether in a federal hospital or institution or in a civilian hospital or institution, or who shall furnish blood for blood banks or for other scientific and research purposes, shall be entitled to be paid therefor such reasonable sum, not to exceed \$50, for each blood withdrawal as may be determined by the head of the department or agency concerned, from public funds available to such department or independent agency for medical and hospital supplies. H. R. 2475 has passed the House, proposing to prohibit prostitution within such reasonable distances of military or naval establishments as the Secretaries of War or Navy shall determine.

Bills Introduced.—S. 1375, introduced by Senator McCarran, Nevada, proposes a federal appropriation of \$150,000,000 to provide for certain community facilities made necessary by the exigencies of national defense, the term "community facility" being defined to include (a) buildings, grounds and incidental equipment for grammar schools, high schools, hospitals and clinics, (b) sewerage and water systems and (c) facilities, including buildings, grounds and incidental equipment, to provide for the welfare of members of the land and naval forces of the United States. H. R. 4337, introduced, by request, by Representative Lesinski, Michigan, proposes to grant permanent and total disability ratings to disabled men of the Army, Navy, Marine Corps and the Coast Guard suffering from severe industrial inadaptability as a result of active service. H. R. 4477, introduced by Representative Weaver, North Carolina, provides for domiciliary, medical and hospital treatment to certain former members of the Army, Navy, Marine Corps and Coast Guard. H. R. 4476, introduced by Representative May, Kentucky, provides for sundry matters affecting the military establishment. Among other things, this bill proposes to provide for the employment of interns in the Medical Department of the Army at not to exceed \$720 a year. H. R. 4484, introduced, by request, by Representative Camp, Georgia, would authorize the Administrator of Veterans' Affairs to grant a disability rating of at least 1 per cent to any enlisted man of the Army, Navy, Marine Corps or Coast Guard who has been discharged for physical disability or on medical survey for disability adjudged to have occurred in line of duty, provided the disability renders the enlisted man unacceptable for reenlistment. H. R. 4485, introduced by Representative Collins, Mississippi, provides that the federal contribution to states for aid to crippled children under the Social Security Act shall be determined according to financial need for assistance. H. R. 4523, introduced by Representative Connery, Massachusetts, proposes to authorize the President to issue an appropriate medal and ribbon to be awarded to members of the armed forces of the United States during the World War who in the interest of humanity and science acted as voluntary subjects for experimentations during the trench fever investigations in France.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION AND PUBLIC HEALTH.)

ADDITIONAL MEDICAL COLLEGE NEWS AND ARTICLES APPEAR IN THE STUDENT SECTION, PAGE 2111.

ARKANSAS

Prize for Interest in Meetings.—Dr. Ira W. Ellis, Monette, received a radio recently from the Craighead-Poinsett Counties Medical Society. The award was based on attendance at meetings during 1940, interest and willingness to cooperate.

CALIFORNIA

Anesthetists Wanted.—A civil service examination to fill positions as head anesthetist and anesthetist in the Los Angeles County General Hospital, Los Angeles, is announced, applications to be filed by May 20. To qualify for the examination for head anesthetist, candidates must have the degree of doctor of medicine from an approved medical school and have satisfactorily completed at least one year's internship in an approved hospital. A residency or advanced training in the specialty of anesthesia and certification by the American Board of Anesthesiology is desirable. In addition, at least two years' recent practice in the specialty of anesthesia in a hospital of not less than two hundred beds is required. The salary will be \$265 a month. Medical training and a one year internship is required for the position of anesthetist. Special training or experience in anesthesia service is desirable though not essential. The salaries for positions in this service are \$225 and \$240 a month. Application blanks and additional information can be obtained from the Los Angeles County Civil Service Commission, Room 102, County Hall of Records, Los Angeles. Arrangements may be made to hold the examinations outside Los Angeles County if a sufficient number of applications are received from persons in other sections of the country. The usual requirement concerning residence in the county has been waived.

CONNECTICUT

State Medical Meeting.—The one hundred and forty-ninth annual session of the Connecticut State Medical Society will be held at the Hotel Stratfield, Bridgeport, May 20-22, under the presidency of Dr. Arthur B. Landry, Hartford, and with the Fairfield County Medical Association acting as host. The following will participate:

Dr. William E. Studdiford Jr., New York, Chemotherapy in Pelvic Inflammatory Diseases.
Dr. Catharine Macfarlane, Philadelphia, Progress Report on an Experiment in the Control of Cancer of the Uterus.
Dr. Cornelius G. Dyke, New York, Interpretation of Encephalograms, Particularly in Relation to Trauma.
Dr. Henry K. U. Beecher, Boston, Relationship of Anesthesia to Surgical Shock.
Dr. Anthony J. Lanza, New York, Health Plans for Small Industries.
Dr. Jacob H. Fine, Beverly, Mass., Fluid Balance in the Preoperative and Postoperative Patient.
Dr. Wesley Bourne, Westmount, Que., Breathing in Anesthesia.
Dr. Walter Freeman, Washington, D. C., Surgical Treatment of Mental Disorders.
Dr. Donald Ewen Cameron, Albany, N. Y., Problems of Civilian Mental Health.
Dr. Martin S. Kleckner, Allentown, Pa., Facts and Fallacies Regarding Proctologic Conditions.
Dr. LeRoy A. Schall, Boston, Cancer of the Upper Respiratory Tract.
Dr. Anthony C. Cipollaro, New York, Skin Diseases of Childhood.
Dr. Ross Golden, New York, Roentgen Ray Examination in the Treatment of Ileus with the Miller-Abbott Tube.
Dr. Hattie E. Alexander, New York, Treatment of Influenzal Meningitis.
Dr. Marius N. Smith-Petersen, Boston, Sciatica from an Orthopedic Point of View.
Dr. Theodor Blum, New York, Rhinology and Oral Surgery, Their Interrelation and the Necessary Cooperation of Both Specialists.
Mr. James E. Bryan, executive secretary, Medical Society of the County of Westchester, New York, A General Practitioner's Section.
Dr. Madge C. L. McGuinness, New York, Physical Therapy in Some Gynecologic Conditions.
Dr. Arthur M. Yudkin, New Haven, Vitamin Therapy in Ophthalmology.

There will be a conference of selective service physicians with Col. Ernest L. Averill, director of selective service for Connecticut, discussing operation of the service, and Dr. Eugen Kahn, New Haven, "Psychiatric Suggestions Concerning Selection for Military Service." Major William B. Smith, Wethersfield, medical officer attached to the selective service system, will conduct a question and answer period. Gov. Robert

A. Hurley will address the annual dinner of the society and Remsen B. Ogilby, Litt.D., president, Trinity College, Hartford, will speak on "Education Begins at Thirty." Hugh P. Beirne, commissioner of pharmacy, for the state, will address a general luncheon on "Interprofessional Relations," and Dr. Sydney E. Sinclair, New Haven, will speak under the auspices of the Hezekiah Beardsley Pediatric Club on "Severe Infections Due to the Organism Causing Influenzal Meningitis." Mr. James A. Hamilton, director of New Haven Hospital, will also address one dinner session. Organizations meeting as guests of the state medical society include the Connecticut Hospital Association, the Woman's Medical Society of Connecticut, American Society of Anesthetists, Connecticut Occupational Therapy Society, Hospital Medical Record Librarians' Association of Connecticut and the Connecticut branch of the American Association of Medical Social Workers.

GEORGIA

State Medical Meeting in Macon.—The Medical Association of Georgia will hold its annual scientific session in Macon at the Municipal Auditorium, May 13-16, under the presidency of Dr. Job Caldwell Patterson, Cuthbert. The Bibb County Medical Society will act as host. Among the speakers will be:

Dr. Hervey M. Cleckley, Augusta, The So-Called Psychopathic Personality.
Dr. James G. McDaniel, Atlanta, Air Embolism as a Cause of Death.
Dr. James E. Baylis, colonel, medical corps, U. S. Army, Medical Preparedness.
Drs. Allen H. Bunce, Mark S. Dougherty Jr., and Robert C. Davis, Atlanta, Clinical Studies of Secondary Anemia.
Dr. Russell L. Cecil, New York, The Plight of the Arthritic.
Dr. Daniel C. Elkin, Atlanta, The Special Field of Cardiac Surgery.
Dr. Virgil P. W. Sydenstricker, Augusta, Multiple Factors in Deficiency Disease.
Dr. Louis L. Williams Jr., U. S. Public Health Service, Public Health and the Defense Program.
Dr. James Elliott Scarborough Jr., Emory University, Cancer of the Mouth.

One discussion will be held on problems of the kidney with the following speakers: Drs. Samuel J. Sinkoe, Atlanta; Rudolph Bell, Thomasville, and Spencer A. Kirkland, Atlanta. The Abner Wellborn Calhoun Lecture will be delivered Wednesday May 14 by Dr. John Alexander, professor of surgery, University of Michigan Medical School, Ann Arbor, on "The Management of Intrathoracic Tumors." Dr. Patterson will give his presidential address Thursday at noon on "Georgia's Medical Problems of Today." Dr. Roy R. Kracke, Emory University, and Dr. Sydenstricker will conduct a luncheon panel discussion Thursday on internal medicine and Drs. Thomas C. Davison, Atlanta, and John H. Sherman, Augusta, one on appendicitis.

ILLINOIS

State Medical Meeting.—The one hundred and first annual meeting of the Illinois State Medical Society will be held at the Palmer House, Chicago, May 20-22, under the presidency of Dr. James S. Templeton, Pinckneyville. Speakers from out of the state include:

Dr. Chester A. Stewart, Minneapolis, Tuberculosis: Its Two Clinically Demonstrable Phases of Development.
Dr. Ray F. Farquharson, Toronto, Canada, Anorexia Nervosa.
Dr. James H. Means, Boston, The Eye Problems in Graves' Disease.
Dr. Isidor S. Ravdin, Philadelphia, Some Problems of the Biliary Tract.
Drs. James B. Costen and William T. K. Bryan, St. Louis, Diagnosis of Cancer of the Esophagus.
Dr. John D. Camp, Rochester, Minn., Osteoporosis and Its Relation to Systemic Disease.
Dr. Frank R. Smith, New York, Early Diagnosis of Malignant Tumors of the Female Genital Organs.
Dr. Frederick A. Collier, Ann Arbor, Mich., Some Problems of Water and Electrolyte Loss in Surgery.
Dr. William Lloyd Aycock, Boston, Susceptibility to Paralysis in Poliomyelitis.
Dr. Oswald P. J. Falk, St. Louis, The Doctor and Coronary Disease.
Dr. John H. Musser, New Orleans, will deliver the annual oration in medicine Tuesday evening on "The Aging Heart" and Dr. Owen H. Wangenstein, Minneapolis, the oration in surgery, entitled "Role of the Surgeon in the Management of the Peptic Ulcer Problem." Tuesday afternoon there will be a symposium on nutrition. At the secretaries' conference, Tuesday evening, the speakers will be Dr. Robert A. Bier, Washington, D. C., on "The Selective Service System as It Affects the Practice of Medicine and the National Defense in Illinois," and Dr. Charles H. Phifer, Chicago, "Social Security Clients." Branch 2 of the American Medical Women's Association will be host to the Medical Women's Association, May 20-21. Among the speakers will be Dr. Esther C. P. Lovejoy, New York, on "American Women's Hospitals in the Defense Program." Other groups meeting at this time will be the Illinois

Society of Pathologists, Physicians' Association of the State Department of Public Welfare of Illinois and the Chicago Society of Industrial Medicine and Surgery. The Veterans' Service Committee dinner will be Tuesday evening with Col. Paul G. Armstrong, director, Illinois Selective Service, discussing "Selective Service, What It Is and What It Means." William F. Waugh, department commander, Department of Illinois, American Legion, will also speak. The fourteenth annual convention of the Woman's Auxiliary to the Illinois State Medical Society will be held May 20-21.

Chicago

The Capps Prize.—The Institute of Medicine of Chicago announces that the Joseph A. Capps Prize of \$400 for 1940 has been awarded to Dr. David N. Danforth, Evanston, for his investigation on "The Anatomy of Labor as Revealed by Frozen Sagittal Sections of the Macacus Rhesus Monkey and of Man." Dr. Danforth graduated at Northwestern University Medical School in 1939.

Course in Anomalies of the Eyes.—Children's Memorial Hospital announces a course in neuromuscular anomalies of the eyes at the hospital, May 18-23, the lectures to be given by Dr. George P. Guibor. The course will include didactic lectures and clinical demonstrations of muscle defects of the eyes. Inquiries regarding the course may be addressed to the Children's Memorial Hospital, 707 Fullerton Avenue.

Memorial to Dr. Fantus.—A bronze plaque was dedicated to the memory of Dr. Bernard Fantus in the new outpatient clinic building at Cook County Hospital in a ceremony on the first anniversary of his death, April 14. The plaque was presented by Dr. David J. Davis, dean and professor of pathology, University of Illinois College of Medicine, and accepted by Dr. Karl A. Meyer, county medical superintendent. Dr. Fantus, for whom the outpatient clinic building is named, founded the blood bank in the county hospital.

IOWA

Personal.—Dr. Norman D. Render, formerly of the staff of the Cherokee State Hospital, Cherokee, has been appointed superintendent of the Clarinda State Hospital, Clarinda, succeeding the late Dr. Roscoe D. Smith.

Recording Room at Annual Session.—During the annual session of the Iowa State Medical Society in Davenport, May 14-16, the speakers bureau will set aside a room where scientific recordings will be run continuously. The bureau has a group of ten recordings which may be heard by any physician during the meeting. The bureau considers this a new kind of postgraduate instruction.

KANSAS

Obstetric Society.—The Kansas State Obstetrical and Gynecological Society was organized in Wichita recently under the auspices of the committee on maternal welfare of the state medical society. The following officers were chosen: Drs. Ray A. West, Wichita, president; Porter D. Brown, Salina, vice president; Lucien R. Pyle, Topeka, secretary. The principal speaker at the meeting was Dr. Leroy A. Calkins, Kansas City, Mo., professor of obstetrics and gynecology, University of Kansas School of Medicine.

State Medical Meeting in Topeka.—The eighty-second annual meeting of the Kansas Medical Society will be held in Topeka, May 13-15, under the presidency of Dr. Forrest L. Loveland, Topeka. Out of state speakers will be:

- Dr. George H. Gardner, Chicago, Gynecologic Management of the "Barren Marriage."
- Dr. Eugene M. Landis, Charlottesville, Va., Diagnosis of Peripheral Vascular Diseases.
- Dr. James Emerson Dailey, Houston, Texas, The Problem of Controlling Tuberculosis.
- Dr. John A. Toomey, Cleveland, The Differential Diagnosis of Meningeal Irritations.
- Dr. Roger L. J. Kennedy, Rochester, Minn., The Significance of Vomiting and Diarrhea in Infants and Children.
- Dr. John R. Nilsson, Omaha, The Open Reduction of Fractures.
- Dr. Sumner L. S. Koch, Chicago, The Repair of Divided Nerves and Tendons.
- Dr. Albert M. Snell, Rochester, Minn., Changing Conceptions of Portal Cirrhosis.
- Dr. Louis J. Hirschman, Detroit, A Simple and Effective Technic of Hemorrhoidectomy.
- Dr. Morris Edward Davis, Chicago, Use and Abuse of Cesarean Section.
- Dr. Arthur L. Smith, Lincoln, Neb., Cardiac Murmurs.
- Dr. Nathan A. Womack, St. Louis, Pathogenesis of Cholecystitis.
- Lieut. Col. Richard H. Eanes, Washington, D. C., The Selective Service Act.
- Dr. Thomas Roy Gittins, Sioux City, Iowa, Laryngotracheobronchitis.
- Dr. Bennett Y. Alvis, St. Louis, Surgical Procedures.

MAINE

Society News.—The Kennebec County Medical Association was addressed, March 20, in Gardiner by Dr. Charles E. Ayers, Worcester, Mass., on "Relation of Trauma to Rupture of Nucleus of Corpus Pulposus."—Dr. Edward T. Whitney of the Boston Dispensary discussed "Rectal Diseases and Their Diagnosis" before the Knox County Medical Society in Rockland, March 11.—Frederick Martin, director of speech clinics, Rhode Island College of Education, Providence, spoke on "Prevention and Correction of Speech Defects" before the Penobscot County Medical Association, March 18.—The Cumberland County Medical Association was addressed in Eugene, March 28, by Dr. Champ Lyons, Boston, on chemotherapy and on April 25 by Dr. Edward B. Benedict, Boston, gastroscopy.

MICHIGAN

Annual Clinic.—The Ingham County Medical Society held its annual clinic in Lansing May 1. A round table discussion on the management of obesity opened the session; the speakers were Drs. Tom D. Spies, Birmingham, Ala., and Louis Harry Newburgh, Ann Arbor. Others on the program were:

- Dr. William A. Scott, Toronto, Ont., Antepartum Hemorrhage.
- Dr. John S. Lundy, Rochester, Minn., The Choice of an Anesthetic.
- Dr. John Scudder, New York, Evaluation of Shock and Its Treatment.
- Dr. Owen H. Wangenstein, Minneapolis, Management of Abdominal Distention.

Dr. Spies will discuss "Avitaminosis and Nutrition" at the dinner session.

New Director of Crippled Children's Commission.—Dr. Carleton Dean has resigned as deputy health commissioner and director of the bureau of local health service, Michigan State Department of Health, Lansing, to become medical director of the Michigan Crippled Children's Commission, Detroit, effective April 1. Dr. Dean was for nine years health officer of the district unit at Charlevoix. He has served as president of the Michigan Public Health Association. Dr. Eldred V. Thiehoff, who has been assistant director in the bureau of local health services, working with county and district health departments, has been made acting deputy health commissioner and director of the bureau. Until his appointment a year ago as assistant director, Dr. Thiehoff had been since 1935 the first director of a district health department composed of Gladwin, Clare and Arenac counties with headquarters in Gladwin. He graduated at the University of Pennsylvania School of Medicine in 1924.

Dr. LeFevre Honored.—Dr. George L. LeFevre was guest of honor at a banquet in Muskegon, March 19, marking completion of fifty years in practice. The banquet was under the combined auspices of the chamber of commerce, the Muskegon County medical and dental societies and other civic groups. Dr. LeFevre, now 75 years of age, began practice in Muskegon in 1891. He was president of the Muskegon County Medical Society in 1905 and in 1922. In 1920 he was elected a member of the council of the Michigan State Medical Society, serving until 1933. He has been chief of staff of Mercy Hospital since 1919. For many years he was a member of the state board of registration in medicine. At the recent banquet Walter B. Steele, D.D.S., was toastmaster and speakers were Drs. Eugene S. Thornton on "Past Associations"; Burton R. Corbus, Grand Rapids, "The Army's Dependence on the Medical Profession," and Mr. O. A. Seyferth, "Civic Activities." A scroll acknowledging his fifty years' service was presented to Dr. LeFevre.

MISSISSIPPI

State Medical Meeting in Biloxi.—The seventy-fourth annual session of the Mississippi State Medical Association will be held in Biloxi, May 13-15, with headquarters at the Buena Vista Hotel and under the presidency of Dr. William H. Anderson, Booneville. The speakers from out of the state will be:

- Dr. William W. Waddell Jr., Charlottesville, Va., Role of Vitamin K in the Etiology, Prevention and Treatment of Hemorrhage in the Newborn Infant.
- Dr. Martha M. Eliot, Washington, D. C. (subject not announced).
- Dr. Oscar Wilkinson, Washington, Reports of the Early Operative Treatment of Squint.
- Dr. Jack S. Guyton, Baltimore, Etiologic Diagnosis of Uveitis.
- Dr. George T. Pack, New York, The Management of Metastatic Cancer in the Groin.
- Dr. Maxwell E. Lapham, New Orleans, The Obligation of a Medical School to the Community.
- Dr. Seale Harris Sr., Birmingham, Ala., Foods and Fads.

A round table discussion will be held Tuesday evening by Dr. Wilkinson on the subject of squint and one by Dr. Guyton on uveitis. The woman's auxiliary to the state medical association will hold its eighteenth annual convention at the Buena Vista

Hotel, May 13-15. The Mississippi State Pediatric Society will devote its session to round table discussions with Dr. George M. Lyon, Huntington, W. Va., addressing the banquet on "Sulfanylguanidine in the Treatment of Bacillary Dysentery." The twelfth annual meeting of the Mississippi State Hospital Association will be held at the Buena Vista Hotel, May 12.

NEW HAMPSHIRE

State Medical Meeting at Manchester.—The one hundred and fiftieth annual meeting of the New Hampshire Medical Society will be held at Manchester, May 13-14, under the presidency of Dr. Ezra A. Jones of that city. There will be round table conferences each morning and a symposium on fractures Tuesday afternoon by Drs. Augustus Thorndike, George W. Van Gorder and Otto J. Hermann, Boston. Other speakers will be:

Dr. Frank H. Lahey, Boston, President-Elect of the American Medical Association, Management of Lesions of the Stomach, Duodenum and Jejunum.

Dr. Paul A. Chandler, Boston, Glaucoma.

Dr. Stanley B. Weld, Hartford, Conn., The National Physicians' Committee.

Dr. Jones, Orthopedics in New Hampshire.

Dr. William J. Brickley, Boston, The Work of the Medical Examiner.

Dr. Lahey will also speak at the anniversary banquet on "Economic Problems of Today." Other banquet speakers will be Dr. Henry H. Amsden, Concord, who will give an address on "The Doctor of One Hundred and Fifty Years Ago," Dr. Marion Fairfield, Nashua, who will read a paper on "Josiah Bartlett" prepared by the late Dr. Thomas W. Luce, Portsmouth, and Gov. Robert O. Blood. Governor Blood is speaker of the society's house of delegates.

NEW JERSEY

Dr. Eagleton's Gift to the Academy.—Dr. and Mrs. Wells P. Eagleton, Newark, have given to the Academy of Medicine of Northern New Jersey in Newark a house adjoining the academy's headquarters. The building, which will be joined to the present one, will be called the Eagleton Civic Medical House. It was said that Dr. and Mrs. Eagleton made the gift "to provide a place where doctors may be free to discuss the medical aspect of any public question." The academy will also be able to enlarge its library facilities. Dr. Eagleton was president of the academy from 1931 to 1933.

Society News.—Dr. William D. Stroud, Philadelphia, addressed the Gloucester County Medical Society, Woodbury, April 17, on "The Clinical Side of the Diagnosis of Heart Disease."—A symposium on "Postpartum Hemorrhage" was presented before the Bergen County Medical Society, Hackensack, April 8, by Drs. Arthur M. Reich, Claude E. Heaton and Irwin Wellen, all of New York.—Dr. Frederick C. Irving, Boston, addressed the Academy of Medicine of Northern New Jersey, Newark, April 17, on "Treatment of Separation of the Placenta with Spanish Windlass and Packing."

NEW YORK

"Doctors for Defense."—The Medical Society of the State of New York began, April 9, a new series of half hour dramatic radio programs entitled "Doctors for Defense." The series will show the physician in every phase of the defense training program: housing, feeding, physical hardening, adaptation to climatic changes, recreation, mental and physical hygiene, sanitation. It will show preparation for treating illnesses and disabilities when they occur, provisions for field hospitals, ship hospitals and air ambulances, then the doctor as a factor in the creation of an efficient air corps, submarine operation and the various other branches of armed defense, his place in industry and in preserving the health of the civilian population. The programs are heard Wednesday evenings on WMCA, 570 kilocycles, from 10 to 10:30 o'clock eastern standard time.

New York City

Twenty-Five Lepers in City.—A homeless man aged 33 was found to have leprosy on examination at Bellevue Hospital recently. It was said that the man had worked in a restaurant in Los Angeles for three years until about a month ago. There are 25 lepers in the city, none of them isolated, according to the *New York Times*, April 10.

Advisory Board for Health Museum.—Seventy authorities in medicine and public health, including fifty physicians, comprise the scientific advisory board of the American Museum of Health, which is to open in the summer in the former Masterpieces of Art Building on the world's fair site. Dr.

Haven Emerson is chairman of the new board, whose duty it will be "to see that vital health knowledge is presented whole and honestly for visitors," according to an announcement.

Personal.—Stefan Ansbacher, D.Sc., associate in charge of vitamin research at the Squibb Institute for Medical Research, New Brunswick, N. J., has been appointed research director in the International Vitamin Corporation.—Dr. Francis J. O'Brien, director of the bureau of child guidance in the city school system, has been appointed an associate superintendent.—Dr. Julius Lewis Amster has been elected president of the medical board of Morrisania Hospital to succeed Dr. Nathan B. Van Etten, President of the American Medical Association, who has served five consecutive terms.—Dr. August W. F. Westhoff, Richmond Hill, was honored at a testimonial dinner by two hundred of his colleagues and other friends recently at Essex House to mark his fiftieth anniversary in the practice of medicine.

NORTH DAKOTA

State Medical Meeting at Grand Forks.—The annual meeting of the North Dakota State Medical Association will be held at Grand Forks, May 19-21, under the presidency of Dr. Cyril J. Gaspel, Grafton. Dr. Morris Fishbein, Chicago, Editor of *THE JOURNAL*, will be the principal speaker at an open evening meeting, May 19, on "Medicine in a Changing World." Guest speakers for the scientific program will include:

Capt. Robert A. Bier, M.R.C., U. S. Army, Washington, D. C., The Physician in the Selective Service Program.

Dr. Edward H. Rynearson, Rochester, Minn., Vitamins.

Dr. Elexious T. Bell, Minneapolis, Pathology of Heart Disease.

Dr. MacNider Wetherby, Minneapolis, Therapeutic Procedures in Chronic Rheumatoid Disease.

Dr. Walter A. Fansler, Minneapolis, Cancer of the Large Bowel.

Dr. Henry E. Michelson, Minneapolis, Diseases of the Skin.

Dr. William A. Coventry, Duluth, Minn., Management of the Breech.

There will be symposiums on heart disease and traumatic injuries, and round table luncheon discussions each day, and an open forum on obstetric problems.

PENNSYLVANIA

Society News.—Dr. Robert S. Hotchkiss, New York, addressed the Northampton County Medical Society at a meeting at the Northampton Country Club near Easton, April 25, on "Factors in Male Sterility."—Speakers at a meeting of the Westmoreland County Medical Society, Greensburg, April 1, were Drs. Michael E. Farah, New Kensington, on "Treatment of Early Syphilis"; Edward J. Moore, Irwin, "Skin Manifestations of Syphilis," and David A. Walker, Torrance, "Cerebrospinal Syphilis."

Education and the Exceptional Child.—The seventh conference on education and the exceptional child under the auspices of the child research clinic of the Woods Schools, Langhorne, will be held on May 13. The speakers will be:

Howard Yale McClusky, Ph.D., Washington, D. C., American Youth and the Present Crisis.

Harry J. Baker, Ph.D., Detroit, Is Our Present Educational Program Adequate for the Exceptional Child?

Dr. Walter F. Dearborn, Cambridge, Mass., Growth and Learning in the Education of Exceptional Children.

T. Ernest Newland, Ph.D., Harrisburg, Can the Present Educational Program for the Exceptional Child Be Improved?

Dr. Leslie B. Hohman, Baltimore, Sex Education for Children and Parents.

Norma E. Cutts, Ph.D., New Haven, Conn., Vocational Guidance as Applied to the Exceptional Child.

Philadelphia

Dr. Krusen Retires as College Head.—Dr. Wilmer Krusen, president of the Philadelphia College of Pharmacy and Science since 1927, retired March 31 with the title of president emeritus and Ivor Griffith, Pharm.D., dean of pharmacy at the college, was elected to succeed him. Dr. Krusen graduated from Jefferson Medical College of Philadelphia in 1893. In 1902 he became professor of gynecology at Temple University School of Medicine; in 1913 he was elected a trustee and in 1914 vice president of the university. Dr. Krusen was director of public health of Philadelphia from 1916 to 1920 and again from 1924 to 1928. Dr. Griffith, a native of Wales, graduated from the Philadelphia College of Pharmacy in 1910. He was appointed instructor at the college in 1916 and has served in various capacities. He was appointed professor of theoretical pharmacy in 1935 and in 1938 succeeded the late Charles H. LaWall, Pharm.D., as dean of pharmacy. Dr. Griffith has resigned as editor of the *American Journal of Pharmacy* after serving since 1921. His successor as editor is Linwood F. Tice, M.S., assistant professor in pharmacy at the college.

Pittsburgh

Health Classes for the Public.—A series of classes in health and hygiene was presented by the Allegheny County Medical Society in conjunction with the Pittsburgh Public Schools beginning March 24 and continuing for six Monday evenings. Those eligible to attend were men employed in service merchandising and in hotels, restaurants and amusements. The speakers were Drs. Oliver E. Turner on public health as it affects the individual; Millard C. Hanson, syphilis; George E. Martin, tuberculosis; George J. Kastlin, pneumonia; Harold P. Hook, general health measures, and Andrew P. D'Zmura, heart disease.

SOUTH DAKOTA

State Medical Meeting at Mitchell.—The sixtieth annual session of the South Dakota State Medical Association will be held in Mitchell, May 18-20, under the presidency of Dr. Oscar J. Mabce, Mitchell. Speakers will be:

- Dr. Vernon L. Hart, Minneapolis, Heredity and Disease of the Skeletal System.
- Dr. Kenneth C. Swan, Iowa City, Insidious Loss of Vision.
- Dr. Joseph C. Ohlmacher, Vermillion, The Medical Profession's Responsibility in the Control of Cancer.
- Dr. Sumner L. S. Koch, Chicago, Some Surgical Principles in the Treatment of Infections of the Hand.
- Dr. Willis H. Thompson, Minneapolis, Bleeding Tendencies in the Newborn and Their Prevention.
- Dr. Henry E. Michelson, Minneapolis, The Relationship of Dermatology to General Medicine.
- Dr. Frederic E. B. Foley, St. Paul, Diagnosis and Treatment of Bladder Neck Obstruction.
- Dr. Robert G. Allison, Minneapolis, Progress of X-Ray Technic.
- Dr. James B. Carey, Minneapolis, Chronic Gastritis.

The guest speakers will conduct clinics in their specialties at morning sessions. At the annual banquet Monday evening Dr. Roy W. Fouts, Omaha, will be the speaker on "The Art of Medicine."

TEXAS

New Health Officers.—Dr. Thomas J. Pennington, Nacogdoches, has been named health officer of Nacogdoches County, it is reported. Dr. William W. Carter, Corsicana, has succeeded Dr. Otho C. Bowmer, Corsicana, as health officer of Navarro County. Dr. Stephen W. Wilson, formerly of Poteet, has been appointed director of the San Augustine-Sabine bi-county health unit, with headquarters in San Augustine. Dr. La Ried S. Oates, Center, has been appointed health officer of Shelby County to succeed Dr. William Spencer Warren, Center. Dr. George A. Gray, Sweetwater, recently director of the Sweetwater-Nolan County health unit, has been appointed director of a new unit for Abilene and Taylor County.

VERMONT

Personal.—Dr. George A. Elliott, assistant superintendent of the Connecticut State Hospital, Middletown, has been appointed superintendent of the Brattleboro Retreat, Brattleboro. He succeeds Dr. Horace G. Ripley, resigned.

Society News.—Dr. Charles K. P. Henry, Montreal, Canada, addressed the Rutland County Medical Society in Rutland April 17 on "Early Diagnosis of Bone Tumors." Dr. Neil Feeney, Montreal, addressed the society March 20 on "Diagnosis and Modern Treatment of Subacute Endocarditis."

WEST VIRGINIA

State Medical Meeting at Charleston.—The seventy-fourth annual session of the West Virginia State Medical Association will be held in Charleston, May 12-14, with headquarters at the Daniel Boone Hotel. Dr. Morris Fishbein, Chicago, Editor of THE JOURNAL, will address a public meeting, Monday evening May 12, on "The Prolongation of Life," and Dr. Robert King Buford, Charleston, will give his presidential address Tuesday evening on "The Physician in the Changing Order." The annual oration on medicine will be given by Dr. Jacob Arnold Bergen, Rochester, Minn., on "Important Newer Concepts Concerning Cancer of the Intestine and Their Bearing on Management" and the oration on surgery by Dr. Hugh A. Bailey, Charleston, on "Operative Wounds, Treatment and Healing." Guest speakers who will address the general scientific assembly and section meetings include:

- Dr. Stanley Gibson, Chicago, Rheumatic Fever.
- Dr. William G. Leaman Jr., Philadelphia, Prognosis in Heart Disease.
- Dr. Henry H. Kessler, Newark, N. J., Amputations of the Upper and Lower Extremities.
- Dr. Charles E. Kinney, Cleveland, Handling of Hearing Problems in General Practice.

- Dr. Edgar van Nuys Allen, Rochester, Minn., Importance of Differentiating Psychoneurotic and Somatic Pain from Visceral Pain.
- Dr. Tiffany J. Williams, Charlottesville, Va., Management of the Toxemias of Late Pregnancy.
- Dr. George J. Thomas, Pittsburgh, Choice of Anesthetics for Emergency Procedures.
- Dr. Isidor S. Ravdin, Philadelphia, Some Problems of Biliary Tract Surgery.

Drs. Roy R. Sayers, U. S. Bureau of Mines, Bethesda, Md.; Paul A. Neal, U. S. Public Health Service, Bethesda, and Dr. Kessler will address the West Virginia Society of Industrial Physicians and Surgeons. Other special societies meeting with the state association include the West Virginia Heart Association with Dr. Leaman as its guest, and the West Virginia Obstetrical and Gynecological Society, with Dr. Williams as guest. The Woman's Auxiliary will hold its meeting during the three days, with Dr. Fishbein as guest speaker at a luncheon Tuesday.

GENERAL

Alumni Meetings at Cleveland.—The Alumni Association of the University of Minnesota Medical School will hold an informal social get-together at the Hotel Cleveland, Cleveland, Wednesday June 4, from 5:30 to 7:30 p. m.—The annual banquet of the St. Louis Medical Alumni Association will be held at the Hotel Statler in Cleveland, June 4, at 7:30 p. m. Three dollars for each person will be charged.

Circulating Library of Music.—Mr. A. L. Rose, vice president of Mead Johnson & Company, Evansville, Ind., has recently organized a free circulating library of music for physicians' orchestras, which physicians throughout the country are invited to use. The music may be kept for six months. In their requests physicians are asked to state the orchestration wanted, name of piece, composer and arranger and name of publisher, and to furnish as much information on their own orchestras as possible.

New President for the Pharmacopeia.—Following the death of Dr. Charles W. Edmunds, Ann Arbor, Mich., president of the United States Pharmacopeia, the board of trustees of the Pharmacopeia at a meeting in New York, April 12, elected Dr. Cary Eggleston, New York, president. Henry A. B. Dunning, Pharm.D., Baltimore, first vice president, was nominated to fill the unexpired term. He, however, declined the succession because of lack of experience and because of his belief that the traditional plan in force for many years, providing that a medical man should be president of the convention and a pharmacist chairman of the board of trustees, is a good plan and should be maintained.

New Director of Committee on Maternal Health.—Name to Be Changed.—The National Committee on Maternal Health recently announced the appointment of Dr. Clair E. Folsome, formerly of Ann Arbor, Mich., as executive director to succeed Dr. Raymond R. Squier, New York, who resigned to devote full time to private practice. The committee also voted to change its name to the Research Council on Human Reproduction, Inc., and legal proceedings are now in progress to effect the change. The organization plans to continue in a research capacity its studies on problems of human fertility and infertility. Dr. Folsome, who graduated from the University of Michigan Medical School, Ann Arbor, in 1933, has recently been field consultant in obstetrics for the Michigan State Department of Health.

American Urological Association.—The annual meeting of the American Urological Association will be held at the Broadmoor Hotel, Colorado Springs, May 19-22, under the presidency of Dr. Thomas Leon Howard, Denver. Among speakers on the program will be:

- Drs. Clarence G. Bandler and Arthur H. Milbert, New York, Urologic Aspects of Military Preparedness and Combat.
- Dr. Elmer Hess, Erie, Pa., Intracystic Reimplantation of the Ureter: A New Operative Technic.
- Drs. Roger C. Graves, Boston, and Lewis W. Guiss, New York, Tumors of the Urethra in the Female.
- Drs. Charles B. Huggins, Clarence V. Hodges and Roland E. Stevens Jr., Chicago, Endocrine Influences on Metastatic Carcinoma of the Prostate.
- Dr. Edwin Davis, Omaha, Antiseptic Aniline Dyes in the Treatment of Submucous Ulcer.
- Drs. Edward W. Beach, Sacramento, Calif., and William G. Shultz, Tucson, Ariz., Spontaneous Healing in Renal Tuberculosis.
- Dr. William F. Braasch, Rochester, Minn., Prognosis in Nonsurgical Bilateral Renal Tuberculosis.
- Drs. Vincil Rogers Deakin and John F. Patton, St. Louis, Sulfathiazole in 200 Cases of Male Gonorrhea.
- Drs. Grayson L. Carroll, Hollis N. Allen and Louis C. Kappel, St. Louis, Sulfathiazole and Its Sodium Salt, Effectiveness and Limitations.

Dr. Irvine H. Page, Indianapolis, will give the Ramon Guiteras Lecture and Dr. Howard his presidential address on Wednesday afternoon, May 21.

Foreign Letters

LONDON

(From Our Regular Correspondent)

March 1, 1941.

The Food Situation

The food situation in this second year of the war can be summed up as being sufficient for nutrition of every one but restricted as to choice. Lord Dawson said in the House of Lords that this was the first totalitarian war, and civilians contributed a larger measure to the fighting than ever. Therefore there should be a nearer equation between their food and that of the forces. The nation had suffered little dislocation of its life by rationing, and there was no evidence of resulting malnutrition, though there was a reduction in weight in some parts of the population. This generation had inherited a strong habit of eating meat. It was a valuable food, but its virtues could be obtained from a smaller quantity. When the minister of food curtailed our meat ration he did us no harm provided we had certain essential foods—wholemeal bread, milk, cheese, potatoes, carrots, green vegetables and fruit.

Lord Woolton, minister of food, said it was impossible to wage war and live to the standard to which we had grown used. We must be ready for greater restrictions and go back to the days of simpler living. The bread supply of the country was ample and cheap. He had been fortified in his bread policy by scientific advice. Our greatest weakness was in the animal protein group. But we previously had been eating more meat than was good for us. The ships required to carry our troops were those which had been used to import meat. But we had potatoes, vegetable oils, fats and milk. Surely we could get all the health and energy we needed. We could not maintain our present supply of food from pigs, poultry, cattle and sheep, which depended on imported foodstuffs. Carrots were so important that he had asked the Ministry of Agriculture to arrange for 30,000 acres to be planted this year. Months ago he arranged for importation of all the powdered and skimmed milk which we could get from overseas. We were holding a reserve of powdered milk, so that in the event of an emergency we could still secure milk, particularly for children and the hospitals. It had been decided to import oranges to the extent of our capacity.

Special Hospitals for Rheumatism

The Empire Rheumatism Council states in its report for the year ended November 1940 that the decision to carry on its work during the war has been justified. Difficulties and dangers have been encountered, but with one exception the research tasks were continued until almost the close of the year. In October one of the laboratories was struck by a bomb. There were no casualties, but the fabric was seriously damaged. Substantial progress has been made with plans for a national scheme of treatment, and this is almost ready for publication. Medical research has a great part to play in bringing under control the causes of disease. It is fitting that researchers should keep to their tasks and follow the high example of doctors and nurses who stand by their patients in the shattered hospitals, which seem to be the favorite objectives of malignant barbarism. The council is endeavoring to establish specialized hospitals for rheumatism. A high incidence of the disease among the soldiers is regarded as probable. Since it is only recently that the medical profession has given special attention to the problem of rheumatism and the number of physicians with wide experience in its diagnosis and treatment is limited, it is held to be wise to concentrate their expert knowledge in specialized hospitals.

More Bombing of London Hospitals

The latest bombing of London hospitals involved two in one night. In one hospital several patients and a nurse were killed when three men's wards were wrecked. Doctors, nurses and rescue squads worked through the night by the light of torches to free those trapped in the wreckage, and before dawn all had been released. The bomb scored a direct hit, bringing part of the building to the ground. While the rescue operations were in progress, surgeons performed operations on the more seriously injured. One rescue worker said that he had never seen such bravery as that shown by the patients. Some of the nurses who helped were wearing dance frocks, as a staff dance was in progress in the nurses' home when the bomb fell, and the nurses and their partners rushed across to the damaged wards. The rescue work was complicated by the discovery of a delayed action bomb near another ward, which made it necessary to remove the patients. A children's hospital was damaged by two bombs the same night. Fortunately the children had been evacuated and there was only a skeleton staff on the premises. Extensive damage was done to both the hospital and the nurses' home, but there were no casualties.

Antigas Mask for Persons with Respiratory Difficulties

Your correspondent is in contact with the civil defense measures and is struck with their efficiency, in which no detail seems to be overlooked. An example is the provision of gas masks for the whole population, including special ones for babies. The most recent development is a mask for those who, on account of respiratory troubles, cannot wear standard gas masks or who, because of tracheotomy, facial deformity, or severe heart trouble cannot wear respirators of ordinary type. The question of suitable respirators for such persons has been the subject of prolonged study and research by the medical and antigas services of the government. Two new types have been devised. One consists of the ordinary civilian respirator with the addition of an outlet valve. The other is a helmet respirator operated by bellows in the same way as the baby's antigas mask. These respirators will be issued to those who establish the need for them by a certificate from a physician. Physicians will receive guidance from health officers and from articles to be published in the medical press.

Prof. William Bulloch

Dr. William Bulloch, F.R.S., emeritus professor of bacteriology in the University of London, has died at the age of 73 years. After a brilliant career he graduated at the University of Aberdeen. He then visited several continental schools and studied tuberculosis under Koch. He was appointed assistant professor of pathology at University College, London, and bacteriologist to the Lister Institute. In 1897 he was offered a chair of bacteriology in London University, which he held at the London Hospital. He was chairman of the governing body of the Lister Institute, an original member of the Medical Research Council and chairman of the committee which prepared its System of Bacteriology. Though not associated with any important advance in bacteriology, he had a great influence as an administrator, teacher, critic, writer and editor. His first notable published work was "Studies in Pathology" for the quarter centenary of the University of Aberdeen, to which he acted as general editor. In 1923, with F. W. Andrews and others, he wrote "Diphtheria: Its Bacteriology, Pathology and Immunology." His best known work was his "History of Bacteriology," published in 1938, which was founded on the Heath Clark Lectures, delivered in 1936 at the London School of Tropical Medicine. He made many contributions to the *Journal of Pathology and Bacteriology*. Toward the end he had the important job of passing all the well known operational catgut prepared at the London Hospital. At no time during his supervision was any infection traced to the stitches for which it was used.

BUENOS AIRES

(From Our Regular Correspondent)

Jan. 31, 1941.

Cocaine Content of Coca Leaves

Dr. Carlos A. Ricketts recently reported in *La crónica médica*, Lima (57:25 [Feb.], 73 [March] 1940), his investigations of the use of coca leaves. Some eight million persons chew coca leaves in Peru, Bolivia, Ecuador and Colombia. He points out that the Indians did not seem to have used coca in the first historical epoch. This seems to support the view that there is no evidence that the chewing of coca leaves is indispensable for living, traveling and working in the high altitudes of the Andes. Ricketts calls attention to the enormous social and hygienic damage caused by coca chewing, especially if combined with alcoholic excess. The young Peruvian Indian is, physically and mentally, a normal and capable human being until he takes up coca chewing. A few years ago the medical society of Arequipa, Peru, made extensive analytic studies both of coca leaves in their natural state and those which had been chewed for from thirty-five to forty minutes. (Coca leaves are generally chewed in combination with the alkaline ashes of a plant called *llipta*.) The analysis showed that on the basis of the lowest consumption of coca leaves, namely 50 Gm. daily, 42.5 mg. of cocaine is absorbed without *llipta*. This absorption increases to 91 mg. with *llipta*. This is a high dose, far in excess of the pharmacopeial dose. What makes it worse is that this absorption goes on day after day during the person's life.

The president of Peru has promulgated a decree temporarily suspending licenses for operating new establishments for the manufacture of crude cocaine until the department of health, labor and social welfare has been able to issue necessary regulations. The cultivation of the poppy has likewise been prohibited and the poppy fields under cultivation have been ordered to be destroyed. (Peru has a considerable proportion of Chinese among its inhabitants.)

The same picture of social and health deterioration due to the abuse of the coca plant is found in Bolivia. The coca plant is cultivated chiefly in the hot lowlands, in the departments of La Paz, Cochabamba, Potosí and Sucre. The revenues derived amount to three fourths of the total revenues in the first department and to one fifth in the others. Curtailment of coca plant acreage would thus lead to a deficit in the national budget. This deficit could, however, be overcome if other products such as coffee, rice and sugar were cultivated instead of the coca plant.

Diphtheria Control in Argentina

The fight against diphtheria is being waged in Argentina on different fronts. The city of Buenos Aires through the Asistencia pública has been urging antidiphtheria vaccination for months. In the last ten weeks about 36,000 school children have been inoculated. The need of antidiphtheria prophylaxis is emphasized by the reports emanating from Mendoza, capital of a western province, where a number of deaths have occurred. In the last sixteen years 188,000 children have been vaccinated by authority of the National Council of Education and not one serious accident was noted. The annual mortality from diphtheria still amounts to 1,500 deaths.

A measure has been introduced in the legislature making vaccination against diphtheria compulsory. In spite of the opposition, particularly of the socialists, the chamber of deputies finally passed the measure. It affects all children between the ages of 9 and 12 years and will involve no charge. The measure requires the ratification of the senate. The sum of 200,000 pesos (about \$60,000) was voted the Bacteriologic Institute for the preparation of vaccines and an equal sum for the creation of a bureau for specific prophylaxis. Prof. Alfredo Sordelli, director of the institute, went on record as reversing

the objections against antidiphtheria vaccination previously entertained by him. Formerly he had been opposed to compulsory vaccination because of the unreliability of the vaccines and the untoward after-effects which had been observed. Since then the preparation of vaccines had been improved. Sordelli advocated the vaccination especially of children from 1 to 6 years of age and stressed the need of a good organization. Several large provinces of Argentina already enforce antidiphtheria vaccination.

Hospital Service in Buenos Aires

According to an article by Prof. J. W. Tobias, former director of health administration and of public aid, in the *Revista medicina y ciencias afines* (2:461 [July 30] 1940) Buenos Aires has at its disposal 14,553 hospital beds, of which 9,660 are municipal and 2,959 national. Though the city population is 2½ million inhabitants, hospital bed capacity must be figured on the basis of accommodating the environs of the city. This increases the total to about 3,700,000. Of the 90,000 patients admitted to the hospitals of Buenos Aires, 22 per cent live in the interior of the country.

New Health Institute in Costa Rica

In Costa Rica a new health institute has been opened, comprising a bacteriologic laboratory, a chemical laboratory, a division of veterinary medicine and a division for the control of biologic products. It is to supervise all national, municipal and private laboratories and is charged with the control of epidemics and epizootics, with snake extermination and with supervising the use of animal, plant and bacterial poisons.

Brief Mention

Dr. Raúl Cibils Aguirre was elected director of the Public Aid in Buenos Aires. Dr. Tobias, his predecessor, resigned after a change in the city administration. Dr. Federico S. Piombo, a member of the surgico-orthopedic division of the children's clinic of Buenos Aires, has been authorized by the faculty of medicine of Buenos Aires to study the treatment of ankylosis in the United States. Dr. Carlos Fernández Speroni has departed for the United States, commissioned by the faculty of medicine of Buenos Aires to study endocrine diseases at Columbia University and the Mayo Clinic.

Grants from the Rockefeller Foundation have made it possible for four persons appointed by the government of Peru to come to the United States to study industrial hygiene, in preparation for the organization of a division of industrial hygiene in Peru.

In Paraguay the control of trachoma has been intensified. In Asunción, the capital, 224 cases of trachoma were found among four thousand school children. By a governmental decree the investigation of the causes of child mortality has also been started, to continue for two years.

The national service of Brazil for the control of yellow fever maintains at present 917 central centers operating on full time. Centers at which sections are performed number 1,268; most of these are situated in the provinces of Minas Geraes, São Paulo and Rio.

Marriages

GEORGE W. MORSE, Statesville, N. C., to Miss Sybil Annette Newman of Daytona Beach, Fla., January 23.

JOSEPH SPURGEON HIATT JR., Durham, N. C., to Miss Sarah Elizabeth Rankin of Gastonia in January.

AUBREY BIGGS HARWELL, Rochester, N. Y., to Miss Grace Follin at Bell Buckle, Tenn., in January.

WILLIAM CRUSE COLES, Augusta, Ga., to Miss Claire Johnston of St. George, S. C., February 15.

P. DAVID NUTTER, Beckley, W. Va., to Miss Laura Marsh of Oswego, N. Y., at St. Albans, W. Va., January 23.

Deaths

Louis Frank * Louisville, Ky.; Hospital College of Medicine, Louisville, 1888; member of the House of Delegates of the American Medical Association in 1918; professor of bacteriology in 1892 and in 1896, professor of obstetrics from 1896 to 1898, professor of abdominal surgery from 1898 to 1908, professor of surgery from 1908 to 1931 and since 1931 professor emeritus at the University of Louisville School of Medicine; past president of the Kentucky State Medical Association; member and vice president of the Southern Surgical Association; member of the American Urological Association; fellow of the American College of Surgeons; chief of staff and attending surgeon, Norton Memorial Infirmary; consulting surgeon, Jewish Hospital, Children's Hospital and the Kosair Hospital for Crippled Children; aged 73; died, March 22, in Orlando, Fla., of pneumonia.

Edward Kimmel Cravener * Schenectady, N. Y.; Ohio State University College of Medicine, Columbus, 1924; member of the American Academy of Orthopedic Surgeons; fellow of the American College of Surgeons; chairman of the medical advisory board 44, which serves draft boards throughout eastern New York; orthopedic surgeon, Schenectady City Hospital and Schenectady County Home and Hospital; consulting orthopedic surgeon, Benedict Memorial Hospital, Ballston Spa, Moses-Ludington Hospital, Ticonderoga, Saratoga Hospital, Saratoga and the Glenridge Sanatorium, Schenectady; aged 42; died, March 27, at Nassau, B. W. I.

Edward Lamar Clemens, Philadelphia; University of Pennsylvania School of Medicine, Philadelphia, 1915; member of the Medical Society of the State of Pennsylvania; associate in neurology at the University of Pennsylvania Graduate School of Medicine; assistant on the neurologic staffs of the Graduate, Temple and Lankenau hospitals; chief of the neurologic service of the Allentown (Pa.) Hospital; served during the World War; aged 54; died, March 1, of coronary occlusion.

Frederick Clifton Moor * Tallahassee, Fla.; University of Maryland School of Medicine, Baltimore, 1903; in 1934 a member of the House of Delegates of the American Medical Association; fellow of the American College of Physicians; past president of the Florida Medical Association; formerly mayor of Tallahassee; served during the World War; for many years chief physician at the Florida State College for Women; aged 61; died, February 18.

David William Tovey, New York; Bellevue Hospital Medical College, New York, 1898; member of the American Association of Obstetricians, Gynecologists and Abdominal Surgeons; fellow of the American College of Surgeons; clinical professor of gynecology and obstetrics, New York Polyclinic Medical School and Hospital; aged 64; died, February 12, in the Welfare Hospital of carcinoma of the thumb with metastases to the axilla and lungs.

John Stewart Hagen * Cincinnati; Eclectic Medical Institute, Cincinnati, 1898; member of the Ohio State Medical Association; formerly professor of surgical gynecology at his alma mater; served during the World War; member of the Ohio State Medical Board from 1930 to 1933; at one time chief milk inspector; formerly police and fire surgeon; on the staff of the Bethesda Hospital; aged 64; died, March 5.

William Milton Dodson * Woodsboro, Texas; University of Texas School of Medicine, Galveston, 1913; past president of the San Patricio-Aransas-Refugio Counties Medical Society; county health officer; on the staff of the Refugio County Hospital, Refugio; at one time mayor; formerly bank president; past president of the local school board; aged 52; died, February 2, of heart disease.

William John Benner, Anna, Ill.; Washington University School of Medicine, St. Louis, 1903; member of the Illinois State Medical Society; served during the World War; past president and secretary of the Union County Medical Society, and the Southern Illinois Medical Association; formerly member of the school board and city council; aged 64; died, March 3, of brain tumor.

Fleetwood Gruver, Tampa, Fla.; University of Nashville (Tenn.) Medical Department, 1897; formerly associated with the United States Public Health Service as medical officer in charge of the U. S. Quarantine Station; served during the World War; aged 69; died, February 28, in the Veterans Administration Facility, Bay Pines, of chronic gastric ulcer with hemorrhage.

Jesse Lee Weldon, Lanett, Ala.; Birmingham Medical College, 1911; member of the Medical Association of the State of Alabama; past president of the Chambers County Medical Society; formerly member of the board of education; member of the city council; aged 56; died, February 28, in a hospital in Atlanta, Ga., of aortic aneurysm, hypertension and arteriosclerosis.

Albert Summerfield Welch * Kansas City, Mo.; Rush Medical College, Chicago, 1923; associate in medicine at the University of Kansas School of Medicine, Kansas City, Kan.; formerly pathologist at the Kansas City General Hospital; at one time editor of the *Jackson County Medical Bulletin*; author of "Clinical Interpretation of Laboratory Reports"; aged 43; died, February 7, of encephalitis and bilateral pneumonia.

Edwin C. McMillan, Hudson, Iowa; Hahnemann Medical College and Hospital, Chicago, 1903; member of the Iowa State Medical Society; past president of the Black Hawk County Medical Society; formerly county coroner; veteran of the Spanish-American War; at one time member of the board of education; aged 63; died, February 5, of coronary occlusion.

John Calvin Dye * Lieutenant Colonel, U. S. Army, retired, Fayetteville, N. C.; North Carolina Medical College, Davidson, 1905; served during the World War; entered the regular army as a captain in 1920 and was retired in 1937 with rank of lieutenant colonel for disability in line of duty; aged 56; died, March 13, of cirrhosis of the liver.

William George Cassels, Washington, D. C.; Louisville (Ky.) Medical College, 1894; served during the World War; served the Veterans Administration Facility at Oteen, N. C., as chief medical officer and at Hines, Ill.; was chief medical officer of the board of appeals in the Veterans Administration; aged 74; died, March 5, of coronary thrombosis.

George Simeon Brock, London, Ky.; Tennessee Medical College, Knoxville, 1894; University of Louisville Medical Department, 1896; member of the Kentucky State Medical Association; past president of the Laurel County Medical Society; served during the World War; formerly county health officer; aged 67; died, March 6, of coronary occlusion.

Clarence Le Fevre Vreeland, Pompton Lakes, N. J.; Columbia University College of Physicians and Surgeons, New York, 1900; member of the Medical Society of New Jersey; served during the World War; physician of the schools of Pompton Lakes; aged 63; died, February 21, of chronic myocarditis and passive congestion of the lungs.

Alfred Wyckoff Ward, Demarest, N. J.; Long Island College Hospital, Brooklyn, 1901; member of the Medical Society of New Jersey; fellow of the American College of Surgeons; past president of the Bergen County Medical Society; on the staff of the Englewood (N. J.) Hospital; aged 62; died, February 8, of coronary thrombosis.

Frank Newton Loomis, Derby, Conn.; Yale College Medical Department, New Haven, Conn., 1883; member of the Connecticut State Medical Society; past president of the New Haven County Medical Society; on the consulting staff of the Bridgeport (Conn.) Hospital and the Griffin Hospital; aged 82; died, February 3.

Benjamin Pincus Seltzer * Philadelphia; University of Pennsylvania School of Medicine, Philadelphia, 1924; assistant in clinical otolaryngology at the Woman's Medical College of Pennsylvania; member of the bureau of health; on the staff of St. Luke's and Children's Hospital; aged 42; died, February 16, of coronary thrombosis.

Benjamin Lawrence Casey, Toronto, Ohio; Ohio State University College of Medicine, Columbus, 1914; member of the Ohio State Medical Association; president of the Jefferson County Medical Society; served during the World War; aged 49; died, March 8, in the Ohio Valley Hospital, Wheeling, W. Va., of heart disease.

Corydon Mott Ryno, Benton Harbor, Mich.; Yale University School of Medicine, New Haven, Conn., 1901; served during the World War; formerly mayor, member of the board of health and board of education; aged 65; on the staff of the Mercy Hospital, where he died, February 6, of hepatitis and organic heart disease.

John Thomas Gillsen, Paterson, N. J.; Bellevue Hospital Medical College, New York, 1888; member of the Medical Society of New Jersey; past president of the Passaic County Medical Society; on the staff of the Nathan and Miriam Barnert Memorial Hospital; aged 77; died, March 23, of carcinoma of the liver.

Wayne Jason Atwell * Buffalo; University of Buffalo School of Medicine, 1934; professor of anatomy at his alma

mater; member of the American Association of Anatomists; aged 51; died, March 27, in the Buffalo General Hospital of multiple myeloma, metastatic calcification of the kidneys and bronchopneumonia.

Adelbert Bertel Maxwell, Ames, Iowa; Chicago Homeopathic Medical College, 1901; Hahnemann Medical College and Hospital, Chicago, 1905; past president of the Story County Medical Society; served during the World War; formerly member of the school board; aged 78; died, February 15, of cerebral hemorrhage.

Charles Andrew Erdmann, Minneapolis; University of Minnesota College of Medicine and Surgery, Minneapolis, 1893; member of the Minnesota State Medical Association; associate professor emeritus of anatomy at his alma mater; aged 74; died, February 19, in Rochester, Minn., of bronchopneumonia and arteriosclerosis.

Henning Koford * Oakland, Calif.; University of California Medical Department, San Francisco, 1904; fellow of the American College of Surgeons; on the staff of the Samuel Merritt Hospital; aged 60; died, February 15, in St. Patrick Hospital, Lake Charles, La., of cerebral hemorrhage and coronary heart disease.

Henry Edmund Vitou, South Bend, Ind.; American Eclectic Medical College, Cincinnati, 1895; member of the Indiana State Medical Association; formerly county health officer and for many years a member of the city board of health; aged 74; died, February 28, in the Epworth Hospital of pneumonia.

Harry Orville Jones, Berne, Ind.; American College of Medicine and Surgery, Chicago, 1905; member of the Indiana State Medical Association; formerly member of the board of education; served during the World War; aged 59; died, February 22, in the Lutheran Hospital, Fort Wayne, of cerebral hemorrhage.

Samuel L. Caldbick * Everett, Wash.; Saginaw (Mich.) Valley Medical College, 1902; member of the Pacific Coast Surgical Association; fellow of the American College of Surgeons; member of the visiting staff, General and Providence hospitals; aged 63; died, February 9, of coronary occlusion.

Charles Otis Hook, Fort Worth, Texas; Hahnemann Medical College and Hospital, Chicago, 1903; Bennett College of Eclectic Medicine and Surgery, Chicago, 1913; member of the State Medical Association of Texas; aged 64; died, February 15, in the All Saints Hospital of chronic myocarditis.

Albert Faller * Cincinnati; St. Louis University School of Medicine, 1902; professor emeritus of contagious diseases at the University of Cincinnati College of Medicine; served during the World War; aged 66; on the staff of the Jewish Hospital, where he died, March 8, of coronary sclerosis.

George Thayer Cass, Danville, Ill.; Chicago College of Medicine and Surgery, 1907; member of the Illinois State Medical Society; past president and secretary of the Vermilion County Medical Society; formerly health officer; aged 69; died, March 12, in St. Elizabeth Hospital of pneumonia.

Henry H. Brevoort * Lodi, N. J.; University of Michigan Department of Medicine and Surgery, Ann Arbor, 1900; for many years medical inspector and school physician; on the staff of the Hackensack (N. J.) Hospital; aged 67; died, March 18, of cerebral embolism and mitral stenosis.

Herbert Wright Wootton, Old Lyme, Conn.; College of Physicians and Surgeons, medical department of Columbia College, New York, 1888; formerly on the staff of the Manhattan Eye, Ear and Throat Hospital, New York; aged 73; died, February 28, of arteriosclerosis and uremia.

Robert Crawford Brown * Lancaster, S. C.; Medical College of Virginia, Richmond, 1901; president of the Lancaster County Medical Society; served during the World War; on the staff of the Marion Sims Memorial Hospital; aged 62; died, February 24, of coronary thrombosis.

Joseph Schwartz, New York; Long Island College Hospital, Brooklyn, 1919; member of the Medical Society of the State of New York; fellow of the American College of Surgeons; on the staff of the Lebanon Hospital; aged 45; died, February 5, of carcinoma of the stomach.

Alvin De Witt Wadsworth, South Norwalk, Conn.; Hahnemann Medical College and Hospital of Philadelphia, 1900; medical director and superintendent of a sanitarium bearing his name; aged 64; died, February 2, of cerebral hemorrhage, chronic nephritis and hypertension.

William Wallace Wadsworth, Muncie, Ind.; Medical College of Ohio, Cincinnati, 1897; member of the Indiana State Medical Association; past president of the Delaware-Blackford Counties Medical Society; aged 77; died, February 23, of cerebral hemorrhage and arteriosclerosis.

Obie Byron Walker, Bowman, Ga.; Georgia College of Eclectic Medicine and Surgery, Atlanta, 1893; Kansas City (Mo.) College of Medicine and Surgery, 1916; for many years a member of the state board of medical examiners; aged 67; died, February 3, of chronic nephritis.

Morris Sigmund Shuman * Philadelphia; Hahnemann Medical College and Hospital of Philadelphia, 1938; on the staff of St. Luke's and Children's Hospital; aged 30; died, February 12, in the Eagleville (Pa.) Sanatorium for Consumptives of pulmonary tuberculosis.

Edward Field Hamm, Clarendon, Texas; Hospital College of Medicine, Louisville, Ky., 1905; member of the State Medical Association of Texas; past president and secretary of the Limestone County Medical Society; aged 65; died, February 15, of coronary occlusion.

Harry Martyn Voorhees * Los Angeles; University of Southern California College of Medicine, Los Angeles, 1905; on the staffs of the California, Good Samaritan, Cedars of Lebanon and Queen of the Angels hospitals; aged 64; died, February 2, of kidney disease.

Richard Ambrose Outerson, Hartford, Conn.; Jefferson Medical College of Philadelphia, 1902; member of the Connecticut State Medical Society; aged 62; on the staff of St. Francis Hospital, where he died, February 5, of cerebral thrombosis and hypertension.

Robert G. Sharp * San Diego, Calif.; Johns Hopkins University School of Medicine, Baltimore, 1917; member of the American Academy of Pediatrics; on the staffs of the Mercy and San Diego General hospitals; aged 58; died, February 21, of carcinoma.

Paul Henry Hannen * Milwaukee; Rheinische Friedrich-Wilhelms-Universität Medizinische Fakultät, Bonn, Prussia, 1920; served during the World War; on the associate staff of the Evangelical Deaconess Hospital; aged 48; died, March 5, of coronary occlusion.

Charles Augustus Dodson, Palmyra, Wis.; College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1901; aged 64; died, February 24, in the Deaconess Hospital, Milwaukee, of malignant hypertension and lobar pneumonia.

Ollie P. Clark, Winchester, Ky.; Kentucky School of Medicine, Louisville, 1901; member of the Kentucky State Medical Association; past president and secretary of the Clark County Medical Society; aged 66; died, February 23, of cirrhosis of the liver.

Amuel B. Spach, Kenilworth, Ill.; Chicago Homeopathic Medical College, 1886; College of Physicians and Surgeons of Chicago, 1893; member of the Illinois State Medical Society; aged 83; died, February 11, of coronary thrombosis and arteriosclerosis.

George Emmett Martin, Robstown, Texas; University of Texas School of Medicine, Galveston, 1925; member of the State Medical Association of Texas; aged 41; died, February 11, in the Robstown-Clinic Hospital of embolism following an appendectomy.

Morris Mott Sweeney * New York; Columbia University College of Physicians and Surgeons, New York, 1910; on the staffs of the Misericordia Hospital, St. Elizabeth's Hospital and St. Clare's Hospital; aged 60; died, February 23, of coronary occlusion.

James Allen Turner, Nashville, Ind.; Medical College of Indiana, Indianapolis, 1898; past president of the state board of health; served during the World War; aged 65; died, February 19, in the Veterans Administration Facility, Indianapolis, of pneumonia.

George Washington Kimball * La Porte, Ind.; College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1902; served during the World War; aged 68; died, February 23, of heart disease and pernicious anemia.

Edward Eugene Ledbetter * Tioga, Texas; Vanderbilt University School of Medicine, Nashville, Tenn., 1899; veteran of the Spanish-American War; aged 64; died, February 22, in the Methodist Hospital, Dallas, of coronary occlusion.

Charles E. Francis, Bowling Green, Ky.; Kentucky University Medical Department, Louisville, 1906; member of the Kentucky State Medical Association; county coroner; aged 59; died, February 24, of cerebral hemorrhage.

Ross Howard Thompson ☉ Philadelphia; Medico-Chirurgical College of Philadelphia, 1911; member of the American Neurological Association; aged 55; died, February 11, in the Methodist Hospital of bronchopneumonia.

Marian Elizabeth Fischer, Buffalo; Woman's Medical College of Pennsylvania, Philadelphia, 1934; member of the Medical Society of the State of New York; aged 42; died, February 20, of pulmonary tuberculosis.

Harry Feagles, Chehalis, Wash.; Tennessee Medical College, Knoxville, 1909; member of the Washington State Medical Association; at one time mayor of Morton; aged 64; died, March 12, of coronary occlusion.

Joseph F. Crouthamel, Souderton, Pa.; Hahnemann Medical College and Hospital of Philadelphia, 1899; aged 66; died, February 23, in the Grand View Hospital, Sellersville, of carcinoma of the head of the pancreas.

Lewis C. Bean ☉ Gallipolis, Ohio; Starling Medical College, Columbus, 1892; bank president; formerly acting assistant surgeon, United States Public Health Service; aged 74; died, March 19, of cerebral hemorrhage.

Rolland Frederick Hastreiter, Los Angeles; Johns Hopkins University School of Medicine, Baltimore, 1901; member of the American Society of Anesthetists; aged 65; died, February 28, of cerebral hemorrhage.

James Eli Hayes Taylor, Washington, D. C.; Howard University College of Medicine, Washington, 1909; aged 63; died, February 5, in the Freedmen's Hospital of cardiorenal disease with cerebral hemorrhage.

Edwin Bouldin Fenby, Baltimore; University of Maryland School of Medicine, Baltimore, 1878; member of the Medical and Chirurgical Faculty of Maryland; aged 88; died, March 8, of chronic myocarditis.

Thomas Demosthenes Rice, Tigrett, Tenn.; University of Nashville Medical Department, 1894; Vanderbilt University School of Medicine, Nashville, 1894; aged 68; died, February 4, of chronic nephritis and uremia.

Thomas M. Morgan, Childress, Texas; University of Tennessee Medical Department, Nashville, 1900; member of the Tennessee State Medical Association; aged 68; died, February 10, of cerebral hemorrhage.

Percival Lemon Clark, Chicago; Bennett College of Eclectic Medicine and Surgery, Chicago, 1889; aged 74; died, February 2, in Oklahoma City of myocarditis following an operation on the prostate.

Charles Ebenezer Moore, Wilson, N. C.; Bellevue Hospital Medical College, New York, 1875; member of the Medical Society of the State of North Carolina; aged 86; died, February 12, of pneumonia.

Stuart John Fairbank, West Winfield, N. Y.; Hahnemann Medical College and Hospital of Philadelphia, 1898; for many years member of the school board; aged 65; died, March 18, of coronary thrombosis.

James Johnson Haviland ☉ Owosso, Mich.; Detroit College of Medicine, 1894; served during the World War; aged 71; died, March 22, in a hospital at Ann Arbor of cerebral hemorrhage.

Earl Stanley Haas ☉ Marathon, Ohio; Eclectic Medical Institute, Cincinnati, 1909; aged 54; died, February 17, in the Bethesda Hospital, Cincinnati, of coronary artery disease with myocardial failure.

William Thomas Braun ☉ Memphis, Tenn.; Memphis Hospital Medical College, 1898; on the staffs of Methodist, Baptist and St. Joseph's hospitals; aged 64; died, March 7, of coronary occlusion.

William M. Gertman, St. Petersburg, Fla.; Atlanta (Ga.) College of Physicians and Surgeons, 1907; aged 56; died, February 26, in the Veterans Administration Facility, Bay Pines, of bronchopneumonia.

Truman Arthur Penney, Tulsa, Okla.; St. Louis College of Physicians and Surgeons, 1906; also a druggist; formerly mayor; aged 67; died, February 20, of arteriosclerosis and diabetes mellitus.

Ransom Sanford Moscrip, Whitney Point, N. Y.; Albany Medical College, 1899; member of the Medical Society of the State of New York; county coroner; aged 66; died, February 9, of leukemia.

Alvin Thomas Neal, Steffenville, Mo.; Hospital College of Medicine, Louisville, Ky., 1896; aged 72; died, February 25, in the Blessing Hospital, Quincy, of carcinoma of the antrum.

A. B. Campbell, Denver; Louisville (Ky.) Medical College, 1894; formerly member of the state legislature of West Virginia; aged 73; died, March 23, of carcinoma of the prostate.

George Freeman Bush, Ramseur, N. C.; Atlanta (Ga.) College of Physicians and Surgeons, 1900; aged 68; died, February 20, of hypertensive cardiac disease and chronic nephritis.

Edson Almeron Freeman ☉ Akron, Ohio; Rush Medical College, Chicago, 1914; aged 54; on the staff of the City Hospital, where he died, March 13, of carcinoma of the colon.

Charles Mernitz, Tivoli, Texas; University of Louisville (Ky.) Medical Department, 1905; aged 61; died, February 24, in the Refugio County Hospital, Refugio, of carcinomatosis.

John H. Mowers, Rochester, Mich.; University of Michigan Department of Medicine and Surgery, Ann Arbor, 1892; aged 80; died, February 16, of arteriosclerotic myocarditis.

Henry Herbert Darnall, Fulton, Ark. (licensed in Arkansas in 1903); member of the Arkansas Medical Society; aged 61; died, February 11, of a self-inflicted gunshot wound.

Joseph M. Brockerhoff, Bellefonte, Pa.; University of Pennsylvania Department of Medicine, Philadelphia, 1882; aged 82; died, March 5, of arteriosclerosis and myocarditis.

Frank E. Goldstein, Syracuse, N. Y.; Syracuse University College of Medicine, 1912; aged 49; died, February 20, in the Crouse-Irving Hospital of coronary thrombosis.

John Bishop Hazel, Saybrook, Ill.; Hospital College of Medicine, Louisville, Ky., 1906; served during the World War; aged 60; died, March 25, of cerebral hemorrhage.

John Adolphus Blakeney, Smithfield, Va.; Meharry Medical College, Nashville, Tenn., 1923; aged 52; died, February 24, of injuries received in an automobile accident.

Gilbert Hamilton Henry, El Dara, Ill.; College of Physicians and Surgeons, Keokuk, Iowa, 1893; aged 79; died, February 24, of diabetes mellitus and arteriosclerosis.

Hazlett Austin Delcher, Toledo, Ohio; University of Maryland School of Medicine, Baltimore, 1907; aged 56; died, March 3, in the Toledo Hospital of pneumonia.

Peter Brickbauer, St. Louis; Homeopathic Medical College of Missouri, St. Louis, 1895; aged 68; died, February 23, of uremia, chronic nephritis and arteriosclerosis.

Luther A. Chanslor, Killeen, Texas (licensed in Texas under the Act of 1907); aged 62; died, March 19, in a hospital at Temple of pneumonia and chronic nephritis.

Ward Woodbridge, Central City, Iowa; Rush Medical College, Chicago, 1881; member of the Iowa State Medical Society; aged 92; died, February 4, of senility.

Axel Kassemir Hildebrand Sundin, North Providence, R. I.; College of Physicians and Surgeons, Boston, 1906; aged 60; died, January 25, of cerebral hemorrhage.

Alfred Ernest Baxter, Lowell, Mass.; Tufts College Medical School, Boston, 1908; aged 64; died, March 7, in St. John's Hospital of chronic myocarditis.

George Alexander Gordon, Hamilton, Mont.; Detroit College of Medicine, 1901; formerly health officer; aged 64; died, February 24, of cerebral hemorrhage.

William A. Heartsill, Weatherford, Texas; Nashville (Tenn.) Medical College, 1878; aged 88; died, March 5, of senility.

Sheffie R. May ☉ Mount Zion, Ill.; College of Physicians and Surgeons, Keokuk, Iowa, 1880; aged 81; died in February.

Charles M. Hammer, Johnstown, Pa.; Jefferson Medical College of Philadelphia, 1909; aged 66; died, February 21.

William M. O'Brien ☉ Greencastle, Ind.; Kentucky School of Medicine, Louisville, 1892; aged 71; died, February 15.

John Sidney Eason, Verona, Miss.; Memphis (Tenn.) Hospital Medical College, 1908; aged 56; died, March 3.

James Richard English ☉ New York; Long Island College Hospital, Brooklyn, 1892; aged 73; died, March 3.

Francis George Gunn, Kelseyville, Calif.; Cooper Medical College, San Francisco, 1900; aged 69; died, March 1.

Benjamin F. Brayfield, Christopher, Ill.; Kentucky School of Medicine, Louisville, 1892; aged 79; died, March 5.

Lester C. Hanna ☉ Houston, Texas (licensed in Texas under the Act of 1907); aged 61; died, March 14.

Flavian P. Au Buchon, Forest, Ind.; Barnes Medical College, St. Louis, 1898; aged 66; died, March 17.

Correspondence

THIAMINE OVERDOSAGE AND TOXICITY

To the Editor:—The use of thiamine hydrochloride, through both lay and medical channels, has reached large proportions. With inferential evidence only regarding human requirements for the maintenance of good health, and without any published evidence of toxicity, the tendency has been toward an intake well above established deficiency levels. Williams and his associates (Williams, R. D.; Mason, H. L.; Wilder, R. M., and Smith, B. F.: Observations on Induced Thiamine Deficiency in Man, *Arch. Int. Med.* 66:785 [Oct.] 1940) showed that definite deficiency symptoms would develop in otherwise normal adults kept on a daily intake of 0.15 mg. for several months, while it is generally presumed that 2 to 3 mg. daily will cover the normal adult needs in health. Little evidence has been presented, however, to show just how much the daily intake need be increased in patients suffering from long-standing deficiency. Here again the tendency has been toward the use of large doses, with a daily intake many times the normal requirement. Such therapy can reasonably be based only on a clearly established nontoxicity and on evidence that such excessive dosage carries therapeutic benefits not obtained by dosages down nearer the normal requirement. Neither of these bases has yet been satisfactorily established by published data.

In August 1940 I observed an onset of definite toxicity in a Cincinnati woman aged 47 who had been taking 10 Gm. of thiamine hydrochloride daily for two and one-half weeks. The symptoms resembled those of overdosage with thyroid extract—headache, increased irritability, insomnia, rapid pulse, weakness and trembling—and cleared up within two days after administration of thiamine hydrochloride was discontinued. After one week's rest the patient began taking 5 mg. of thiamine hydrochloride daily and after four and one-half weeks at this intake level the same toxic syndrome recurred. Prompt relief again followed cessation of the intake of thiamine hydrochloride.

During a recent visit to Panama, I observed other patients with thiamine toxicity. Liberal doses (20 to 40 mg. of thiamine hydrochloride daily) are often prescribed by physicians in tropical climates in an effort to overcome the physical let-down which so commonly afflicts persons migrating there from cooler regions. One young woman, receiving an average of 17 mg. daily, was excreting 12 mg. daily in her urine and passing stools smelling strongly of thiamine hydrochloride. She was showing symptoms similar to those of thyroid hyperactivity, with fine and coarse muscle tremor, rapid pulse and noticeable nervous hyperirritability. Several other similar cases of toxicity were reported to me after attention had been drawn to the type of toxic symptoms one might expect from overdosage. Cessation of the administration of thiamine hydrochloride was followed in each such case by prompt subsidence of the hyperthyroid-like symptoms. A detailed report of a series of these instances of overdosage will soon be offered for publication by Dr. F. A. Raymond of the Panama Hospital.

Just why no reports of thiamine toxicity have appeared in medical literature is difficult to understand, for the vitamin has been widely used at daily intake levels of 10 to 50 mg. in treatment of deficiency states. Prevalence of toxic reactions in the tropics (or in Cincinnati's August heat) may be related to more widespread multiple deficiencies for the B vitamins at the high environmental temperatures. In cases of multiple deficiency it has been shown that unfavorable results may attend administration of a single one of the lacking elements (Morgan, Agnes Fay: The Effect of Imbalance in the Filtrate Fraction of the Vitamin B Complex in Dogs, *Science* 93:261 [March 14] 1941). Studies on rats in my laboratory (Mills, C. A.: Environmental Temperatures and Thiamine Require-

ments, *Am. J. Physiol.*, to be published) have shown thiamine (and pantothenic acid) requirements per gram of food to be decidedly higher for animals kept at 90 F. than at 65 F. environmental temperature level. It may perhaps be the greater prevalence of multiple deficiency in regions of tropical heat that has led to the unfavorable results of high thiamine dosage in Panama. Lower requirement per gram of food in temperate zone coolness may have prevented similar evidences of unfavorable reactions from appearing at more northern latitudes.

Recognition of symptoms of overdosage at once necessitates more adequate information as to actual thiamine needs under various conditions. Such information can be obtained only by blood level and excretion rate studies. Addition of thiamine hydrochloride to bread and other commonly used foods, without control over the intake level, also carries a potentiality of harm. This is particularly true in those stimulating middle temperate regions where hyperthyroidism and other forms of metabolic disturbance are already prone to occur. The medical profession should recognize the need for greater conservatism in the use of this important vitamin, and its distribution through both nonmedical and medical channels should be placed on a more scientific and controlled basis.

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THE RECORD OF A BLOOD DONOR

To the Editor:—The editorial "The Record of a Blood Donor" that appeared in the February 1 issue of THE JOURNAL concerns a subject of more than passing interest to me. As one of the physicians who attended Rose Marie Ryan (the niece of Mrs. McMullin) I am acquainted with the intimate

Correlation of Critical Features

Date, 1935	Temperature, F.		Blood Culture		Transfusions	
	Maximum	Minimum	Blood	Colonies per Ce.	Amount, Cc.	Donor
8/ 8	103.6	102.8	+	364	...	.....
8/11	105.0	103.6	+	...	...	.....
8/13	104.4	103.6	..	...	200	Father
8/14	104.4	102.8	..	...	150	Father
8/16*	104.2	102.0	+	34	*150	Aunt
8/17	103.8	101.0	..	..	150	Aunt
8/19	104.0	100.4	..	..	150	Aunt
8/21	104.0	100.6	+	4	130	Aunt
8/23	103.4	101.0	..	..	135	Father
8/26	103.4	100.2	..	..	120	Father
8/30	102.0	99.4	+	2	125	Aunt
9/ 1	101.2	99.4	..	..	130	Father
9/ 3	102.2	99.4	..	..	130	Father
9/ 5	103.4	101.0	..	..	130	Aunt
9/ 9	104.2	101.2	+	8	140	Father
9/10	103.8	98.0	..	..	100	Father
Serum and Plasma						
9/11	103.4	99.6	.....	.....	50	Father
9/12	104.0	102.4	.....	.....	50	Father
9/13	103.8	101.4	Sterile	.....	60	Father
9/20	101.2	99.4	.....	.....	60	Aunt
9/21	101.2	99.2	Sterile	.....	75	Aunt
9/24	101.0	100.0	.....	.....	60	Father
9/26	99.6	99.0	.....	.....	50	Father
9/28	Transfusion reaction	.....	.....	.....	90	Aunt
10/ 4	99.8	98.4	Sterile	.....	.....	.....
10/ 9	99.6	98.0	Patient left hospital	.....	.....	.....

* On 8/15 injection of donors with *Staphylococcus aureus* vaccine strain Ryan was started.

details of the early use of Mrs. McMullin as a donor. We have watched the rising tide of publicity about the "golden blood" of Mrs. McMullin with amazement at the credulity of the public and many of our profession. I am sure that you, and the medical profession in general, would be interested in some early details of this affair.

Rose Marie Ryan, aged 3 years, had a superficial infection (pustule) on the right knee which progressed in severity despite conservative local therapy. Five days later, with a high fever (104 F. axillary), localized pain in the back and stiffness of the neck muscles and irritability suggesting meningitis, she was sent to Hahnemann Hospital on Aug. 8, 1935, under the care of her family physician, Dr. Maxwell White. The clinical signs suggesting meningitis were denied by a negative spinal fluid, but a blood culture taken that day contained 364 colonies of *Staphylococcus aureus* per cubic centimeter. The first of a series of somatic abscesses to be drained by Dr. A. B. Webster was located in the muscles of the interscapular region; this was opened on August 12 and from it *Staphylococcus aureus* was also cultured. Positive blood cultures repeatedly confirmed the original diagnosis of staphylococcal septicemia with multiple abscess formation. The patient was critically ill, with signs of an active septicemia, for five weeks. During this time she received many blood transfusions, and numerous somatic abscesses were opened and drained. When the original diagnosis of septicemia was made it was decided that we would give the patient multiple transfusions with epinephrine leukocytosis reinforcement until immune donors could be prepared.

It was definitely at our suggestion and after repeated requests of all members of the patient's family that Mrs. McMullin submitted to injections of a vaccine. This vaccine, prepared from *Staphylococcus aureus* obtained from the blood of Rose Marie Ryan, was heat killed (56 C. for one hour) and proved to be sterile before use. Subcutaneous injections of this vaccine were given to Mrs. McMullin every four days, and she was coincidentally used as a donor for repeated transfusions. In all, nine transfusions of Mrs. McMullin's blood totaling 835 cc. of blood and 225 cc. of serum or plasma were given from August 16 to September 28. When the vaccine injections were started, Mrs. McMullin's blood contained no demonstrable agglutinins against the staphylococcus; on September 5, twenty-one days after the first injection, the agglutinin titer was $\frac{1}{4}$.

Mrs. McMullin was not the only immune donor used in this case; the patient's father was similarly injected with Rose Marie's staphylococcus vaccine. Over the period of August 23 to September 24 he submitted to eleven transfusions, with a total of 755 cc. of blood and 270 cc. of plasma or serum. On September 9 his agglutinin titer was $\frac{1}{4}$. It is of interest to note that on September 11, after the patient's fourteenth transfusion, cyanosis developed from polycythemia, her red cell count being 7,270,000 per cubic millimeter; from this time on all transfusions were of plasma or serum.

It is difficult to assay the value of the immunotransfusions in this case. When the case was reviewed prior to a staff presentation on Nov. 12, 1935 it was our opinion that recovery must be credited to a number of factors, which would include the patient's resistance, immunotransfusions, surgical drainage of the metastatic abscesses and general medical care. A correlation of the critical features is given in the accompanying table.

The patient was taken home on October 11 nearly afebrile. Her recovery was complete and she was known to be alive a short time ago.

Knowing that the increasing publicity about Mrs. McMullin stemmed from the recovery of Rose Marie Ryan, I felt that in some measure it was my responsibility to give publicity to the facts of the case as stated here. Her blood can only partially and jointly (with Mr. Ryan's) share the credit for the recovery of a patient with staphylococcal septicemia in 1935. She was never inoculated with live bacteria and received only a heat-killed vaccine. She was never inoculated with a streptococcus organism by me, and I in no way used her blood for or against any leukemic condition.

On numerous occasions I have been asked for my opinion about the value of Mrs. McMullin's blood. These requests have usually been by telephone from physicians and relatives, not infrequently some distance away, such as South Carolina. A good example is contained in the following telegram, dated January 20, from Alma Hickman, Soaper Hotel, Henderson, Ky.: "Please give me the address of Mrs. Rose McMullin, blood donor, and tell me if she can help leukemia cases; answer collect." In response I wired "Mrs. McMullin's blood of no value in leukemia." A number of inquiries have come to the hospital and have been answered through the medical director; a copy of this correspondence is available and consists of repetitious denials of the value of Mrs. McMullin's blood in leukemia.

H. RUSSELL FISHER, M.D., Philadelphia.

Associate Professor of Pathology, Hahnemann
Medical College and Hospital of Philadelphia.

MEDICAL FAMILIES

To the Editor:—I am enclosing a record of a medical family which I think rather interesting.

Grandfather:	Adam L. Titterington M.D. Born 1789
Great Uncle:	Joseph Titterington M.D. 10-23-1813
Uncles:	Richard Titterington M.D. 11-6-1819
	Cousins: James Titterington M.D.
	James Titterington M.D. 2-19-1824 (1)
	Cousins: Lee Titterington, M.D. D.D.S. (2)
	Clyde Titterington, D.D.S. (3)
	James Titterington, D.D.S.
	John Q. Titterington M.D. 5-3-1826
	Cousins: Jesse Titterington M.D.
	Robert Titterington M.D.
	Daniel Titterington 5-15-1828
	Cousins: James Titterington M.D.
	Jesse M. Titterington M.D.
Father:	Alfred Titterington M.D. 7-7-1834
	Richard M. Titterington D.D.S. (Informant)

I am staying at the home of the last name, Dr. Richard M. Titterington, who supplied me with these facts.

JAMES P. SHARON, M.D., Fort Leonard Wood, Mo.

Medical Examinations and Licensure

COMING EXAMINATIONS

BOARDS OF MEDICAL EXAMINERS

BOARDS OF EXAMINERS IN THE BASIC SCIENCES

Examinations of boards of medical examiners and boards of examiners in the basic sciences were published in THE JOURNAL, April 26, page 1984.

NATIONAL BOARD OF MEDICAL EXAMINERS

NATIONAL BOARD OF MEDICAL EXAMINERS: Parts I and II. Various centers, June 23-25. Part III. Various centers, June or July. Exec. Sec., Mr. Everett S. Elwood, 225 S. 15th St., Philadelphia.

EXAMINING BOARDS IN SPECIALTIES

AMERICAN BOARD OF DERMATOLOGY AND SYPHILOLOGY: *Written*. Nov. 3. Final date for filing application is Sept. 23. *Oral*. Dec. 12-13. Final date for filing application is Nov. 8. Sec., Dr. C. Guy Lane, 416 Marlboro St., Boston.

AMERICAN BOARD OF INTERNAL MEDICINE: *Oral*. June, in advance of the meeting of the American Medical Association. *Written*. Oct. 20. Final date for filing application is Sept. 1. Sec., Dr. William S. Middleton, 1301 University Ave., Madison, Wis.

AMERICAN BOARD OF NEUROLOGICAL SURGERY: *Oral*. Philadelphia, June 6-7. Sec., Dr. R. Glen Spurling, 404 Brown Bldg., Louisville, Ky.

AMERICAN BOARD OF OPHTHALMOLOGY: *Oral*. New York, June 2; Portland, July 15; Chicago, Oct. 18. *Written*. March 7, 1942. Sec., Dr. John Green, 6830 Waterman Ave., St. Louis.

AMERICAN BOARD OF ORTHOPAEDIC SURGERY: Washington, January. Final date for filing application is Nov. 1. Sec., Dr. Guy A. Caldwell, 1640 State St., New Orleans, La.

AMERICAN BOARD OF PEDIATRICS: *Oral*. Chicago, May 18, following the Region III meeting of the American Academy of Pediatrics. *Written*. Oct. 7-8, immediately following the annual meeting of the American Academy of Pediatrics. *Written*. Locally, Aug. 22. Sec., Dr. C. A. Aldrich, 707 Fullerton Ave., Chicago.

Bureau of Legal Medicine and Legislation

MEDICOLEGAL ABSTRACTS

Medical Practice Acts: Right of Unlicensed Chiropractor to Question Constitutionality of Act.—The healing arts practice act of Virginia (Michie's Code of Virginia, 1936, Chapter 68, Section 1608 et seq.) regulates "the practice of medicine in all of its branches" by creating a board of medical examiners with authority to issue certificates to persons who have met certain prescribed educational requirements and passed the required examination. Section 1612 requires that licensees to practice medicine, homeopathy, osteopathy, chiropractic or chiropody must register their certificates with the clerk of the circuit court of the county or the corporation court of the city in which such practice is to be carried on. The defendant chiropractor was prosecuted for unlawfully practicing "chiropractic and medicine" without a license. The evidence showed not only that the defendant had failed to file a certificate with the clerk of the corporation court of the city of Staunton but that in fact he had never been granted such a certificate by the board of medical examiners. The evidence showed, too, that the defendant had maintained an office in Staunton for almost a year, that he had employed a stenographer in the office, that he had his name on the doors and windows and that people went in and out of the office. The defendant listed his name in the city telephone directory as: "Grosso, Charles S., Chiropractor, Witz Building." The evidence also showed that a few months before the trial the defendant had caused an advertisement to be published in the Staunton papers which lauded chiropractic "as a cure for backaches, constipation, rash and other ills" and offered "free" "spinal analysis and consultation." The advertisement also stated the telephone number, office hours and address of the defendant's place of business. One Whisman, a witness for the commonwealth, testified that he had visited the defendant's office and had received a roentgen examination and a treatment for which he paid the defendant \$16.50. The defendant did not testify in his own behalf. He was found guilty and so he appealed to the Supreme Court of Appeals of Virginia.

Section 1615 of the Virginia healing arts practice act, said the Supreme Court of Appeals, provides that an applicant for a certificate to "practice medicine, homeopathy, osteopathy, and chiropractic" must show that he or she "Has studied medicine not less than four school years, including four satisfactory courses of at least eight months each in four different calendar years in a medical school registered as maintaining a standard, satisfactory to the state board of education. Such standard being based upon the grading of the American Medical Association, of the American Institute of Homeopathy, and of the American Osteopathic Association, respectively." The defendant first contended that this section is unconstitutional because it discriminates against a candidate for a license to practice chiropractic, in violation of the due process and equal protection clauses of the federal constitution and the due process clause of the state constitution. He argued that under the act a candidate for license to practice medicine, homeopathy or osteopathy was required to show graduation from a school conforming to standards prescribed by his particular branch of the healing art but that no like standard was prescribed for chiropractors, and that consequently a chiropractor had to qualify himself by taking a course in a school approved by one of the branches of the healing art other than chiropractic. The court said, however, that even if section 1615 is discriminatory the defendant was in no position to raise that question. He produced no evidence to show that he had been denied the right to take an examination because of the lack of recognition of a chiropractic school. Nor did the defendant show that he had pursued his studies in such a school, or in any other school. In holding that the defendant's rights had been in no way prejudiced, the court said:

It is well settled that one challenging the constitutionality of a provision in a statute has the burden of showing that he himself has been injured

thereby. It avails him nothing to point out that some other person might conceivably be discriminated against.

The defendant also raised objection to certain rulings of the trial court with reference to the admissibility of evidence and the granting or refusing of instructions. He contended that the trial court had erred in refusing to admit the testimony of a practicing chiropractor as to the definition of chiropractic and as to whether or not the defendant's acts constituted the practice of chiropractic. The Supreme Court of Appeals held, in substance, that the question was not whether the defendant was practicing chiropractic but whether he was violating the healing arts practice act. Indeed, said the court, it is conceivable that the acts done by an unlicensed practitioner might constitute the practice of two or more branches of the healing art. In the judgment of the court this testimony was, therefore, properly excluded. The defendant also contended that he should have been allowed to cross examine witness Whisman to show that the witness had visited the defendant at the direction of a local physician who was interested in the prosecution of the defendant. The court held that the defendant should have been given the opportunity requested because the testimony of the witness would have tended to show his credibility or prejudice. The defendant finally contended that he was entitled to an instruction on the presumption of innocence. Such an instruction had been refused by the trial court because of section 1614, which provides that on the trial of any person for practicing without complying with the act "the burden of proof shall be upon him to establish his right to practice." The Supreme Court of Appeals held that the commonwealth was required to prove that the defendant was (1) doing certain specified things and (2) doing them without authority, and section 1614 merely means that on proof of (1) the defendant has the burden of going on and showing that he was licensed to do those things. In the judgment of the court, the section does not deprive the defendant of the benefit of a presumption of innocence. The court concluded that the errors of the trial court were substantial rather than merely "technical" and that the cause should be remanded for a new trial. Judgment for the commonwealth was therefore reversed and a new trial ordered.—*Grosso v. Commonwealth*, 13 S. E. (2d) 285 (Va., 1941).

Malpractice: Hypodermic Needle Broken in Patient's Jaw; Doctrine of Res Ipsa Loquitur Not Applicable.—The plaintiff consulted the defendant dentist about a tooth that had been bothering her and was advised to have it extracted. Preparatory to the extraction the defendant broke off a hypodermic needle in the plaintiff's jaw. After unsuccessfully attempting to remove the needle he took the plaintiff to a dentist and two dental surgical specialists to have it removed, but their attempts even with the aid of roentgenograms were also unsuccessful. Subsequently the plaintiff brought suit against the defendant dentist to recover damages. She alleged that as the result of his negligence she had pains, a nervous condition, spots before her eyes and general poor health including loss of weight. From a judgment of the trial court in favor of the defendant, the plaintiff appealed to the appellate court of Indiana, in Banc.

The appellate court could not agree with the plaintiff's first contention that the defendant had been negligent in allowing the needle to remain in her jaw. The evidence introduced by the plaintiff, said the court, indicated clearly that the defendant's conduct after the needle had broken was exemplary. "He not only advised her as to the true condition but attempted in every way possible to have the needle removed." Likewise, the plaintiff's further contention that the defendant had been negligent in breaking off the needle in her jaw did not meet with the approval of the court. In the judgment of the court the doctrine of *res ipsa loquitur* was not applicable to the present case. In a malpractice case against a dentist or a physician the main issue as to whether or not the defendant used suitable professional skill is a topic calling for expert testimony, and a plaintiff cannot rest his or her case on the mere facts of suffering and rely on the jury's untutored sympathies with-

out attempting specifically to prove by evidence that the defendant's unskilfulness was the cause of that suffering. In the present case there was no evidence, either by lay witness or expert, that the conduct of the defendant, either before or after the needle was broken, was negligent or unskilful. In the absence of such evidence the court held that the plaintiff had not sustained the required burden of proof. Judgment for the defendant was therefore affirmed.—*Robinson v. Ferguson*, 22 N. E. (2d) 901 (Ind., 1939).

Occupational Disease Act (Indiana): Compensability of Bronchitis, Pharyngitis and Sinusitis.—The occupational disease act of Indiana defines an occupational disease as follows:

As used in this act, the term "occupational disease" means a disease arising out of and in the course of the employment. Ordinary diseases of life to which the general public is exposed outside of the employment shall not be compensable, except where such diseases follow as an incident of an occupational disease as defined in this section.

The plaintiff had been employed for three weeks in the defendant's soldering department where he became exposed to dust and the fumes of hydrochloric acid (muriatic acid) used in cleaning the soldering irons. The medical testimony was in agreement that the plaintiff was suffering from bronchitis, pharyngitis and sinusitis and that such diseases were not singular or peculiar to his employment but were common to a person in the ordinary walks of life. The plaintiff's medical witness would not say that these diseases were caused by the plaintiff's employment but he testified that he believed that the acid fumes accelerated them. Two medical witnesses for the defendant testified that they saw no connection between the plaintiff's employment and his condition, but one of the witnesses testified that he thought that the plaintiff's sinusitis might have been accelerated temporarily by the acid fumes. The appellate court of Indiana, in Banc, held that the plaintiff was not suffering from an occupational disease within the meaning of the act, and so it affirmed the order of the industrial board denying compensation.—*Russell v. Auburn Central Mfg. Co.*, 22 N. E. (2d) 889 (Ind., 1939).

Society Proceedings

COMING MEETINGS

American Medical Association, Cleveland, June 2-6. Dr. Olin West, 535 North Dearborn St., Chicago, Secretary.

American Association for the Study of Allergy, Cleveland, June 2-3. Dr. J. Harvey Black, 1405 Medical Arts Bldg., Dallas, Tex., Secretary.

American Association for the Study of Goiter, Boston, May 12-14. Dr. W. Blair Mosser, 133 Biddle St., Kane, Pa., Secretary.

American Association for the Surgery of Trauma, Montreal and Montebello, Canada, May 29-31. Dr. Ralph G. Carothers, 409 Broadway, Cincinnati, Secretary.

American Association for Thoracic Surgery, Toronto, Canada, June 9-11. Dr. Richard H. Meade Jr., 2116 Pine St., Philadelphia, Secretary.

American Association of Genito-Urinary Surgeons, Hot Springs, Va., May 29-31. Dr. Charles C. Higgins, 2020 East 93d St., Cleveland, Secretary.

American Association of Industrial Physicians and Surgeons, Pittsburgh, May 5-9. Dr. Volney S. Cheney, % Armour and Company, Union Stock Yards, Chicago, Secretary.

American Association of Medical Milk Commissions, Cleveland, June 1-2. Dr. Paul B. Cassidy, 2037 Pine St., Philadelphia, Secretary.

American Association of the History of Medicine, Atlantic City, N. J., May 4-6. Dr. Henry E. Sigerist, 1900 East Monument St., Baltimore, Secretary.

American Association on Mental Deficiency, Salt Lake City, June 20-24. Dr. E. Arthur Whitney, Washington Road, Elwyn, Pa., Secretary.

American Broncho-Esophagological Association, Cleveland, June 3. Dr. Paul H. Holinger, 1150 North State St., Chicago, Secretary.

American College of Chest Physicians, Cleveland, May 31-June 2. Dr. Paul H. Holinger, 500 North Dearborn St., Chicago, Secretary.

American Gastro-Enterological Association, Atlantic City, N. J., May 5-6. Dr. Thomas T. Mackie, 16 East 90th St., New York, Secretary.

American Gynecological Society, Colorado Springs, May 26-28. Dr. Richard W. TeLinde, Johns Hopkins Hospital, Baltimore, Secretary.

American Heart Association, Cleveland, May 30-31. Dr. Howard B. Sprague, 50 West 50th Street, New York, Secretary.

American Laryngological Association, Atlantic City, May 28-30. Dr. Charles J. Imperatori, 108 East 38th St., New York, Secretary.

American Laryngological, Rhinological and Otolological Society, Los Angeles, June 16-18. Dr. C. Stewart Nash, 277 Alexander St., Rochester, N. Y., Secretary.

American Medical Women's Association, Cleveland, June 1-2. Dr. Etta Gray, 649 South Olive St., Los Angeles, Secretary.

American Neurological Association, Atlantic City, N. J., June 9-11. Dr. Henry A. Riley, 117 East 72d St., New York, Secretary.

American Ophthalmological Society, Hot Springs, Va., May 29-June 1. Dr. Eugene M. Blake, 303 Whitney Ave., New Haven, Conn., Secretary.

American Orthopedic Association, Toronto, Canada, June 9-12. Dr. Charles W. Peabody, 474 Fisher Bldg., Detroit, Secretary.

American Otolological Society, Atlantic City, N. J., May 26-28. Dr. Isidore Friesner, 36 East 73d St., New York, Secretary.

American Pediatric Society, Hot Springs, Va., May 22-24. Dr. Hugh McCulloch, 325 North Euclid Ave., St. Louis, Secretary.

American Proctologic Society, Cleveland, June 1-3. Dr. William H. Daniel, 1930 Wilshire Blvd., Los Angeles, Secretary.

American Psychiatric Association, Richmond, Va., May 5-9. Dr. Arthur H. Ruggles, 305 Blackstone Blvd., Providence, R. I., Secretary.

American Radium Society, Cleveland, June 2-3. Dr. William E. Costolow, 1407 South Hope St., Los Angeles, Secretary.

American Rheumatism Association, Cleveland, June 2. Dr. A. R. Shands, Dupont Institute, Wilmington, Del., Secretary.

American Society for Clinical Investigation, Atlantic City, N. J., May 5. Dr. Eugene M. Landis, University of Virginia Hospital, Charlottesville, Va., Secretary.

American Society of Clinical Pathologists, Cleveland, May 30-June 1. Dr. A. S. Giordano, 531 North Main St., South Bend, Ind., Secretary.

American Therapeutic Society, Cleveland, May 30-31. Dr. Oscar B. Hunter, 1835 Eye St. N.W., Washington, D. C., Secretary.

American Urological Association, Colorado Springs, Colo., May 19-22. Dr. Clyde L. Deming, 789 Howard Ave., New Haven, Conn., Secretary.

Association for Research in Ophthalmology, Cleveland, June 3. Dr. Conrad Berens, 35 East 70th Street, New York, Secretary.

Association of American Physicians, Atlantic City, N. J., May 6-7. Dr. Hugh J. Morgan, Vanderbilt University Hospital, Nashville, Tenn., Secretary.

California Medical Association, Del Monte, May 5-8. Dr. George H. Kress, 450 Sutter St., San Francisco, Secretary.

Connecticut State Medical Society, Bridgeport, May 21-22. Dr. Creighton Barker, 258 Church St., New Haven, Secretary.

Georgia Medical Association of, Macon, May 13-16. Dr. Edgar D. Shanks, 478 Peachtree St. N.E., Atlanta, Secretary.

Hawaii Territorial Medical Association, Honolulu, May 2-4. Dr. A. L. Craig, Dillingham Bldg., Honolulu, Secretary.

Idaho State Medical Association, Sun Valley, June 18-21. Dr. F. B. Jeppesen, 105 North 8th St., Boise, Secretary.

Illinois State Medical Society, Chicago, May 20-23. Dr. Harold M. Camp, 224 South Main St., Monmouth, Secretary.

Iowa State Medical Society, Davenport, May 14-16. Dr. R. L. Parker, 3510 Sixth Ave., Des Moines, Secretary.

Kansas Medical Society, Topeka, May 13-15. Mr. C. G. Munns, 112 West Sixth St., Topeka, Executive Secretary.

Maine Medical Association, York Harbor, June 22-24. Dr. Frederick R. Carter, 22 Arsenal St., Portland, Secretary.

Massachusetts Medical Society, Boston, May 21-22. Dr. Robert N. Nye, 8 Fenway, Boston, Secretary.

Medical Library Association, Ann Arbor, Mich., May 29-31. Miss Anna C. Holt, 25 Shattuck St., Boston, Secretary.

Minnesota State Medical Association, St. Paul, May 26-28. Dr. B. B. Souster, 493 Lowry Medical Arts Bldg., St. Paul, Secretary.

Mississippi State Medical Association, Biloxi, May 13-15. Dr. T. M. Dye, Box 295, Clarksdale, Secretary.

Montana Medical Association of, Great Falls, June 24-26. Dr. Thomas F. Walker, 206 Medical Arts Bldg., Great Falls, Secretary.

National Gastroenterological Association, New York, May 13-16. Dr. G. Randolph Manning, Room 319, 1819 Broadway, New York, Secretary.

National Tuberculosis Association, San Antonio, Tex., May 5-8. Dr. Charles J. Hatfield, 1790 Broadway, New York, Secretary.

Nebraska State Medical Association, Lincoln, May 5-8. Dr. R. B. Adams, 416 Federal Securities Bldg., Lincoln, Secretary.

New Hampshire Medical Society, Manchester, May 13-14. Dr. Carleton R. Metcalf, 5 South State St., Concord, Secretary.

New Jersey Medical Society of, Atlantic City, May 20-22. Dr. Alfred Stahl, 55 Lincoln Park, Newark, Secretary.

New York State Association of Public Health Laboratories, Syracuse, May 19. Miss Mary B. Kirkbride, New Scotland Ave., Albany, Secretary.

North Carolina Medical Society of the State of, Pinehurst, May 19-21. Dr. I. H. Manning, Chapel Hill, Secretary.

North Dakota State Medical Association, Grand Forks, May 19-21. Dr. L. W. Larson, 221 Fifth St., Bismarck, Secretary.

Ohio State Medical Association, Cleveland, June 3. Mr. C. S. Nelson, 79 East State St., Columbus, Executive Secretary.

Oklahoma State Medical Association, Oklahoma City, May 19-22. Dr. L. S. Willour, 210 Plaza Court Bldg., Oklahoma City, Secretary.

Pacific Coast Oto-Ophthalmological Society, Los Angeles, May 26-29. Dr. C. Allen Dickey, 450 Sutter Street, San Francisco, Secretary.

Pacific Northwest Medical Association, Spokane, Wash., June 25-28. Dr. C. W. Countryman, 407 Riverside Ave., Spokane, Wash., Secretary.

Rhode Island Medical Society, Providence, May 28-29. Dr. Guy W. Wells, 124 Waterman St., Providence, Secretary.

Society of Surgeons of New Jersey, Plainfield, May 28. Dr. Walter B. Mount, 21 Plymouth St., Montclair, Secretary.

South Dakota State Medical Association, Mitchell, May 18-20. Dr. Clarence E. Sherwood, 107½ Egan Ave., Madison, Secretary.

Texas State Medical Association of, Fort Worth, May 12-15. Dr. Holman Taylor, 1404 West El Paso St., Fort Worth, Secretary.

Utah State Medical Association, Salt Lake City, June 12-14. Dr. D. G. Edmunds, 610 McIntyre Bldg., Salt Lake City, Secretary.

West Virginia State Medical Association, Charleston, May 12-14. Mr. Joe W. Savage, Public Library Bldg., Charleston, Executive Secretary.

Current Medical Literature

AMERICAN

The Association library lends periodicals to members of the Association and to individual subscribers in continental United States and Canada for a period of three days. Three journals may be borrowed at a time. Periodicals are available from 1931 to date. Requests for issues of earlier date cannot be filled. Requests should be accompanied by stamps to cover postage (6 cents if one and 18 cents if three periodicals are requested). Periodicals published by the American Medical Association are not available for lending but can be supplied on purchase order. Reprints as a rule are the property of authors and can be obtained for permanent possession only from them.

Titles marked with an asterisk (*) are abstracted below.

American Journal of Ophthalmology, St. Louis

24:1-118 (Jan.) 1941

- Keratoplasty: Comments on Technic of Corneal Transplantation: Source and Preservation of Donor's Material: Report of New Instruments. R. Castroviejo, New York.—p. 1.
Hypofunction of Lacrimal Gland. A. de Rötth, Spokane, Wash.—p. 20.
Eyegrounds of Patients with Functional Psychoses: Review of Literature. A. Gralnick, Central Islip, N. Y.—p. 26.
Pharmacologic Behavior of Dilator Iridis. E. Sachs and P. Heath, Detroit.—p. 34.
What Subluxated Lenses Reveal About Mechanism of Accommodation. W. H. Luedde, St. Louis.—p. 40.
Plastic Reconstruction of Upper Lid. J. M. McLean, Baltimore.—p. 46.
Sympathetic Ophthalmia Treated with Sulfanilamide: Case: Pathologic Report. R. C. Gamble, Chicago.—p. 49.
The Limits of Tyndallmetry in the Anterior Chamber. P. C. Kronfeld, Chicago.—p. 51.
Van der Hoeve's Syndrome: Four Occurrences in Three Generations of One Family. P. M. Corboy, Valparaiso, Ind.—p. 57.
Distribution of Sulfapyridine Between Blood, Aqueous Humor and Cornea. K. Meyer, H. S. Bloch and W. P. Chamberlain Jr., New York.—p. 60.

Journal of the Mount Sinai Hospital, New York

7:243-600 (Jan.-Feb.) 1941. Partial Index

- An Appreciation of Howard Lilienthal. M. Manges, New York.—p. 245.
Some Pathologic Features of Primary and Secondary Extramedullary Tumors of Spinal Cord. C. A. Elsborg, New York.—p. 247.
*Chronic Constrictive Pericarditis: Medical and Surgical Aspects. B. S. Oppenheimer, W. M. Hitzig and H. Neuhoof, New York.—p. 270.
*Recovery from Meningococcemia and Meningococcal Endocarditis Following Anaphylactic Shock. G. Baehr, New York.—p. 294.
Cardiac Infarction Induced by Unusual Effort. E. P. Boas, New York.—p. 307.
Necessity for "Typing" Pneumonias. J. G. M. Bullowa, New York.—p. 316.
*Problem of Cancer of Esophagus. J. H. Garlock, New York.—p. 349.
Therapeutic Value of Implanted Estrogens. S. H. Geist, New York.—p. 353.
Primary Neuroectodermal Brain Tumors: Their Transition from Benign to Malignant Forms. J. H. Globus, New York.—p. 361.
Thrombo-Angiitis and Rickettsia—Etiologic Relationship. C. Goodman, New York.—p. 391.
*Congenital Hypertrophic Pyloric Stenosis. S. V. Haas, New York.—p. 411.
Bernard-Horner Syndrome, as Complication in Chest Operations. I. Kross, New York.—p. 445.
Psoriasis with Tumor-like Formations: Observations Over a Twenty Year Period. O. L. Levin and H. T. Behrman, New York.—p. 449.
Thoracoplasty in Children. B. Schick and Bella Singer, New York.—p. 486.
Suprachoroidal Iridodetachment for Chronic Glaucoma: Preliminary Report. J. S. Somborg, New York.—p. 516.
Successful Suture of Penetrating Stab Wounds of Heart, with Some Observations on Subject: Two Cases. J. B. Stenbuck, New York.—p. 520.

Chronic Constrictive Pericarditis.—Oppenheimer and his co-workers report 8 cases of constrictive pericarditis treated surgically. Two of the patients have been well eight and a half and four years after pericardiectomy, 2 have had pronounced postoperative improvement for two and one years respectively, and 1 operated on July 19, 1940 was improved four weeks after a partial pericardiectomy; there was an elevated venous pressure with a disappearance of ascites. Three patients have died, 2 respectively three and seven days after operation; 1 after a Brauer and a partial pericardiectomy had transitory relief, a second pericardiectomy was followed by relief after months and ultimate economic restitution, and death was due to adenocarcinoma of the rectum. The cases represent an extrinsic form of heart disease in which a thickened, contracted, at times calcified, pericardium incarcerates and compresses the heart, interfering with its diastolic expansion and less with its systolic contraction, causing thereby extreme venous stasis. The etiology of 5 of the cases was obscure, 1 was tuberculous in origin and in 2 there was a clinical history of rheumatic fever. The symptoms of chronic constrictive

pericarditis are primarily due to constriction and not to the fixation of the heart to surrounding structures. The diagnosis may be made on the history and at times on inspection alone. The direct operative approach has consisted essentially in an extrapleural exposure of the heart, release of the right side with special dissection at the venae cavae after its left side is released and removal of the constricting membranes in a one stage operation. In cases in which doubt exists as to how far to proceed, possible additional decortication in a second stage should be considered. In cases in which typical constrictive pericarditis is not encountered at operation, too extensive decortication seems unwise; the results of a partial operation can be awaited and a second stage performed, if indicated. The authors occasionally practice a two stage operation and advocate it under the foregoing circumstances. Despite considerable experience they remain in doubt as to how much of the diseased pericardium should be excised in some cases. They believe excision should be generous over the right side of the heart, although there is usually no special reason for dissection over the right auricle and venae cavae. Excision over the left side of the heart must be extended to the posterior surface. It is their practice to excise in this region and over the diaphragm until the heart, including the apex, is well released. A constricting membrane will not reform after excision if enough of it is removed to release the heart as the source of the fibrous tissue, the diseased pericardium, is removed. Medical treatment is only palliative. All operations should be performed after careful preparation.

Recovery from Meningococcemia After Anaphylactic Shock.—Baehr suggests that the universal employment of sulfapyridine has served to obscure the equally dramatic crisis which signalizes spontaneous recovery in lobar pneumonia. He reports an instance which illustrates that an insignificant physical or chemical agent is sometimes capable of setting off an immunologic trigger mechanism which suddenly controls a previously overwhelming infection. After an illness of ten weeks from what appeared to be a fatal meningococcal infection and at a time when death appeared imminent, anaphylactic shock followed by a chill and a temperature of 106.4 F. resulted in immediate and complete sterilization of the infection. Although spontaneous recovery from meningococcemia and meningococcal endocarditis is not rare, such an outcome could not have been expected in this instance. Hyperpyrexia may have played a part, as gram-negative cocci are unusually thermolabile. However, the temperature had repeatedly been as high as 105.8 F. without any influence. During the ten weeks of illness the immunologic forces had been unable to overcome the infection. The sudden and almost fatal anaphylactic shock from a drop and a half of serum, and perhaps the severe rigor and pyrexia which followed, had a rapid and profound influence on the balance between the infection and the forces of recovery. Ten days after the incident the patient, a girl of 13, was able to walk out of the hospital.

Cancer of Esophagus.—Garlock believes that the next few years will see the acceptance of surgical treatment for cancer of the esophagus as the only sound therapy. This cancer is usually a slowly growing neoplasm. It remains a local disease for some time before metastasizing. While it may not spread peripherally until late, it may become locally inoperable in the early stages because of fixation to the nearby vital structures, the aorta or bronchus. More rapid progress in the surgical treatment will be made when increasing numbers of early cases (persistent dysphagia) in which esophagoscopy, biopsy and fluoroscopic and roentgen examination have been done are referred to the surgeon. The best results of surgical treatment follow early diagnosis, careful preoperative preparation, sound operative conception, expertly administered anesthesia, meticulous postoperative care and immediate treatment of complications as they arise. The ideal operation is one which removes the tumor-bearing portion of the organ and a wide margin of normal tissue and reestablishes esophagogastric continuity by some type of anastomosis. When the cancer is located in the middle third of the organ, this is not possible and the procedure is to preserve the lower 2 inches of the organ (following resection of the tumor-bearing portion), leaving it attached to the stomach and bringing it out through

a small abdominal incision, where the divided end is sewn to the skin to form an esophagostomy. In this way the sphincteric mechanism of the cardia is preserved, and leakage does not occur. The operation is completed in one stage. This change greatly simplifies the subsequent construction of a skin-lined tube on the anterior wall of the chest to replace the resected esophagus and obviates the use of a rubber tube. In a fairly large group of successful resections of this type there has been little disturbance of esophageal or gastric function. During the last four and a half years the author has operated on 20 patients with squamous cell carcinoma of the esophagus. Among the 14 who presented operable lesions there were 5 deaths. Of the 9 survivors, 5 are alive and well today; 1 for almost four years, 1 for eighteen months, 1 for thirteen months, 1 for seven months and 1 for six weeks. The remaining 4 patients died of local recurrence or other cause twenty-two months, one year, one year, and three and a half months respectively after operation. During the same period he operated on 15 patients with adenocarcinoma of the cardiac end of the stomach with esophageal obstruction. Only 5 had operable lesions, 2 of whom died (1 of cerebral embolus on the third day and 1 from inanition and general debility on the third day with negative necropsy). The surviving patients are alive and well, respectively fourteen, four and three months after operation. The patient with cancer of the esophagus can be assured of a reasonable chance of survival following surgical intervention.

Congenital Hypertrophic Pyloric Stenosis.—According to Haas, the literature of the last ten years shows that treatment of congenital hypertrophic pyloric stenosis is almost equally divided between surgical and medical procedures. The recommended medical procedures are all of value, but the fundamental requirement is the relaxation of the pyloric sphincter. Atropine plus calcium best fulfil this requirement. Other important adjuvants are phenobarbital and thick gruel. The author's procedure is to use breast milk, if available; if not, protein milk or evaporated milk. With artificial feeding some sugar or thick gruel is added in amount suitable to the size of the infant. The feedings are not given more often than every four hours; intervals of six hours are sometimes better. In each feeding there is placed $\frac{1}{4},000$ grain (0.000065 Gm.) of atropine sulfate. If vomiting continues after two feedings the dose of atropine is doubled and increased by $\frac{1}{4},000$ grain every second feeding until vomiting is controlled or signs of atropine intoxication require a temporary reduction in dosage. If it is necessary to use the drug hypodermically, clyses or saline drip with or without dextrose and occasionally a blood transfusion are used. Saline solution (from 750 to 1,500 cc.) by continuous drip is superior to single small injections for combating dehydration, alkalosis and a disordered chloride metabolism. One drachm (4 Gm.) of calcium gluconate is added to the day's formula. When the atropine dosage is raised to the point of tolerance and sufficient relief is not obtained, $\frac{1}{4}$ grain (0.016 Gm.) of phenobarbital is added to each feeding. In some cases the dose of phenobarbital must be increased. The infant should be kept in a semiupright position turned toward the right side. The medication will have to be continued over a variable period, in some cases for months. After the acute phase the medication becomes part of the feeding routine. From time to time an attempt is made to reduce the dose of atropine, and if vomiting does not recur it is discontinued. The tendency to resort to surgery in cases of pyloric stenosis without adequate medical treatment is not in keeping with good medical tradition. Surgical intervention (preferably the Rammstedt operation or some modification of it) is indicated only when an experienced surgeon is available, if proper cooperation in the home is not available and when proper medical treatment fails. The literature of the last ten years shows that the mortality with surgical treatment (2,840 cases) was 6 per cent and with medical treatment (1,218 cases) 7.8 per cent. Of the author's 179 patients 8 were operated on after medical treatment failed; there were 7 recoveries and 1 death. Among the 171 medically treated patients there were 2 deaths, both occurring during the recovery phase when the atropine was being reduced. The cause of death was not explained clinically and necropsies were not permitted.

Kansas Medical Society Journal, Topeka

42:1-44 (Jan.) 1941

- The Diet of the Doctor. W. H. Olmsted, St. Louis.—p. 1.
- Outline of Treatment of Acute Intestinal Obstruction. T. G. Orr, Kansas City.—p. 6.
- The Goiter Patient. O. W. Longwood, Stafford.—p. 10.
- Method to Determine Packed White Cell Volume of Blood. I. R. Morrison, Atchison.—p. 17.
- Tumors of Pleura and Peritoneum, Anatomohistologic Study: Summary. M. Gerundo, Topeka.—p. 18.

Laryngoscope, St. Louis

51:1-114 (Jan.) 1941

- Review of Literature of Tuberculosis in the Field of Otolaryngology, Chiefly for the Latter Part of 1939 and the Year 1940. F. R. Spencer, Boulder, Colo.—p. 1.
- One Stage Penetration Operation Using Postaural Approach. L. Kend, New York.—p. 37.
- The Earpiece—in Testing for and Fitting Hearing Aids. B. A. Schier, New York.—p. 52.
- Neoplasms of Antrum, Nasopharynx and Hard Palate. I. Arons, New York.—p. 61.
- Intranasal Operation on Frontal Sinus. C. Stamm, Philadelphia.—p. 77.
- Sphenotemporal Lobe Abscess with Analysis of Little Known Clinical Symptoms. D. L. Poe, New York.—p. 87.
- Carcinoma of Larynx: Review of 170 Consecutive Cases. W. S. Peck, J. H. Maxwell and F. Lamberson, Ann Arbor, Mich.—p. 97.

Military Surgeon, Washington, D. C.

88:1-96 (Jan.) 1941

- Medical and Sanitary Care of the Civilian Population Necessitated by Attacks from Hostile Aircraft. L. W. Johnson.—p. 1.
- The Veterans' Administration and National Defense. F. T. Hines.—p. 24.
- The Dental Service in the Military Establishment. L. C. Fairbank.—p. 29.
- The Medical Officers' Responsibility in the Present Emergency. L. A. Fox.—p. 32.
- Nutrition and National Defense. M. L. Drazin.—p. 39.
- Method of Armory Preparation for Field Exercises. G. W. Ainsley.—p. 51.
- Pneumothorax Medication with Special Consideration of Problems in Maxillofacial Surgery. E. E. Lyman.—p. 57.
- Some Unpublished Letters of Florence Nightingale. H. W. Jones.—p. 63.

Surgery, Gynecology and Obstetrics, Chicago

72:1-128 (Jan.) 1941

- Transplantation of Skin and Subcutaneous Tissue to Hand. S. L. Koch, Chicago.—p. 1.
- Surgery of Modern Warfare. F. A. Collier and J. M. Farris, Ann Arbor, Mich.—p. 15.
- *Rationale and Use of Oxygen in Postoperative Treatment of Hyperthyroidism. J. G. Schnedorf, R. D. McClure and A. B. McGraw, Detroit.—p. 26.
- Surgical Problem of Chronic Gastritis. H. Brunn and R. L. Gold, San Francisco.—p. 31.
- Effect of Repeated Pregnancies on Rabbits with Renal Hypertension. L. V. Dill, C. E. Isenhour, J. F. Cadden and A. Kuder, New York.—p. 38.
- Nasal Simultaneous Gastroduodenal Aspirator: Its Use in Postoperative Gastrointestinal and Abdominal Surgery. M. Einhorn, New York.—p. 48.
- *Obstetric Experiences of Women Paralyzed by Acute Anterior Poliomyelitis. S. Kleinberg and T. Horwitz, New York.—p. 58.
- *Liver Cell Fat Necrosis Caused by Pancreatic Reflux. W. Schiller, Chicago.—p. 70.
- Reconstruction of Penile Urethra Following Trauma. E. P. Whelan, Nutley, N. J.—p. 81.
- Partial Selective Thoracoplasty and Pedicle Muscle Flaps in Treatment of Chronic Empyema. A. Behrend, Philadelphia.—p. 87.
- Modified Transverse Incision for Low Abdominal Operations. L. S. Cherney, San Francisco.—p. 92.
- Practical Points in Diagnosis and Treatment of Fractures of Jaws. J. A. Doherty, Boston.—p. 96.
- Straight Lateral Incision for Unilateral Suboccipital Craniotomy. A. W. Adson, Rochester, Minn.—p. 99.
- Hammer Toe: New Procedure for Its Correction. S. Selig, New York.—p. 101.
- Fractures in Neck of Femur: Accurate Subcutaneous Fixation with Screws. E. O. Geckeler and A. Tuttle, Philadelphia.—p. 106.

Oxygen Postoperatively for Hyperthyroidism.—Schnedorf and his collaborators point out that in the toxic thyroid patient (in whom oxygen requirements are greater) it is especially important to remember that anoxemia is present for some time before cyanosis is evident. Arterial blood oxygen saturation may be below normal in patients with hyperthyroidism. The authors determined the blood oxygen saturation of the femoral artery in 12 hyperthyroid patients before and about one hour after thyroidectomy. The normal oxygen

saturation of 6 of the 12 patients was depressed from 2 to 7 per cent under basal conditions before operation. This depression was seen most frequently in toxic patients with high metabolic rates. In spite of using a combination of avertin with amylene hydrate, ethylene and oxygen for the anesthetic a further depression of arterial blood oxygen saturation of 10 patients followed operation. No significant fall in blood pressure was observed. The effect of the basal metabolic rate on oxygen consumption and vital processes of 50 patients was studied. Decided differences in the oxygen consumption and the vital processes were observed under basal conditions. Hypothyroid patients had a lower body temperature, a slower pulse and slower respiration and absorbed less oxygen per minute than the normal patients did. In the patients with appreciably increased basal metabolic rates these processes were considerably increased. The cardiovascular reactions in toxic goiter are increased. In an attempt to transport more oxygen and nourishment to the tissues, and carbon dioxide and metabolic waste products away from them, the heart rate increased from an average basal normal rate of 78 to the average basal hyperthyroid rate of 111 beats per minute. This increase greatly decreases the cardiac reserve. The increased pulse rate interferes with the coronary circulation to the myocardium. Prolonged anoxemia under increased demand may lead to angina pectoris, coronary occlusions, myocardial asthenia and decompensation. The hyperexcitability of the nervous system may lead to arrhythmia and irregularity. Acute and chronic anoxemia causes enlargement, hypertrophy and fatty degeneration of the heart. With an increased basal metabolic rate an increase in the respiratory rate occurs. The tachypnea is a physiologic attempt to increase the absorption of oxygen and to facilitate aeration of the quickened circulation. Dyspnea is a prominent symptom in advanced cases. The patient is conscious of this difficulty and feels that he must voluntarily assist the normal movements. This leads to increased restlessness and nervousness. The vital capacity is decreased below normal. The physiologic processes are less stable than in the normal patient, and therefore the reactions of the toxic thyroid patient should be closely watched because they are violent and superimpose a further strain on the already overburdened vital reserves. Increase in the pulse rate, temperature and respiratory rate are most common following thyroidectomy in the very toxic patient. However, severe reactions and fatal crisis may be precipitated by relatively minor factors. The use of oxygen therapy postoperatively seems apparent. Since the authors' more extensive use of the liquid oxygen tent immediately after operation they have had only 5 thyroid deaths among 202 consecutive operations; 2 of these were due to bronchopneumonia and 3 to acute hyperthyroidism. The cool moist atmosphere in the liquid oxygen tent and the high oxygen concentration exerted a sedative action and decreased restlessness. The high oxygen tension made breathing easier, decreasing its rate, lessening or abolishing dyspnea, decreasing the heart rate and so maintaining the cardiac reserve and frequently correcting arrhythmia and decompensation. The elevated postoperative body temperature was frequently restored early to normal.

Pregnancy and Acute Anterior Poliomyelitis.—Kleinberg and Horwitz determined the effect of acute anterior poliomyelitis on 243 women who had subsequent pregnancies. They examined 44 of the women, and the data on the remaining 199 were obtained through questionnaires filled out by the attending obstetrician and orthopedic surgeon and in some instances by the patient. Among the series there were 13 women whose pregnancy was complicated by an acute attack of anterior poliomyelitis. Asymmetry of the pelvic inlet was found among approximately 80 per cent of the women. The distortion was usually mild and did not produce dystocia. Pelvic asymmetry was absent in those who because of extensive paralysis were completely bedridden, never having attempted to bear weight or to get about with braces and crutches. There were four main types of pelvic deformity: lateral pelvic obliquity, increased anterior pelvic tilt with exaggerated lumbar lordosis, anteroposterior axis deviation or rotation about a longitudinal axis and rotation of one innominate bone on the

other about a transverse axis or torsional deformity. Of 15 cases reported in the literature, 1 case reported to them and the 13 cases collected by them the authors conclude that pregnancy complicated by acute anterior poliomyelitis may be anticipated to progress normally, with a normal termination of labor and with normal offspring. The involuntary contractions of the uterus and the ability of the uterus to expel its contents spontaneously also observed in patients paralyzed by cord tumors, spondylitis and vertebral fracture are due to the fact that the uterus has an independent nerve supply and will contract after the spinal cord is transected and after its sympathetic nerve supply is extirpated. There was no intrauterine poliomyelitis among the 29 cases. The passive immunity of the offspring derived from the mother does not persist for long, as a few cases of acute anterior poliomyelitis in infants less than 1 month of age (earliest, 9 days) have been reported. Analysis of the 243 patients who became pregnant one year or more after an acute attack of anterior poliomyelitis reveals that a normal and uneventful pregnancy and labor with normal offspring may be anticipated. There is no indication for interruption of pregnancy, except those reasons that would also be operative in nonparalytic women. Cesarean section was utilized in a higher percentage (11.5) of the paralytic women than in a comparable nonparalytic series, but it is the authors' belief that in some instances it may not have been warranted and that therefore the percentage probably does not represent the true index of the need of cesarean section for paralytic women.

Liver Cell Fat Necrosis Caused by Pancreatic Reflux.—On the basis of information gained from clinical, pathologic and experimental investigation on liver cell fat necrosis, Schiller believes that evidence of pancreatic reflux into the liver may be expected when the liver in the presence of intrahepatic fat necrosis contains neutral fat as a result of fatty degeneration or infiltration. The degeneration must be severe. When the degeneration is mild, the relatively small droplets are surrounded by a layer of protoplasm sufficiently thick so that the lipase cannot penetrate through this protecting layer. Only when the liver cell is transformed into a fat cell consisting of a large drop of fat surrounded by a thin cell membrane can the lipase penetrate through the membrane and split the fat. The author has examined the livers of 16 patients with pancreatic fat necrosis. All showed fatty degeneration and infiltration. The degeneration was not severe enough. In 6 cases there was a periportal hypertrophic cirrhosis with fatty infiltration. In 5 of these, either the fatty transformation of the liver cells was not severe enough or no reflux had occurred. The sixth case showed the changes expected. In nonspecific necrosis of fat tissue the character of the necrotic areas is different from that seen in specific pancreatic fat necrosis, in which the lipase at once splits large amounts of fat and thus produces masses of fatty acid crystals long before the surrounding tissue can produce a protective granulation tissue. The foci of intrahepatic fat necrosis in the author's case were exactly like those of the pancreatic type. Even though no fat necrosis of the pancreas and the adjacent fat tissue were present, the morphology of the liver foci with the masses of fatty acid needles pointed to the action of pancreatic lipase. Necrosis of liver tissue is a rather frequent pathologic entity in red and yellow atrophy. However, small necrotic areas are also frequently found in cirrhotic livers. Examination of a large number of slides taken from cases of liver atrophy and cirrhosis has convinced the author that in these cases hepatic tissue never contains fatty acids or fat salts. Concerning the route by which the pancreatic lipase reaches the hepatic tissue there are several possibilities. Reflux of pancreatic secretion to the liver by way of the bile duct must be admitted in the presence of pancreatic stones large enough to block the papilla of Vater. The pancreatic and hepatic biliary ducts may be transformed into one communicating system by obstructing the outlet—the papilla of Vater—the most frequent cause of which is stones. Spasm of the sphincter of Oddi and edema of the duodenal mucosa must also be considered. Lipase in the bile is conclusive evidence of pancreatic reflux, as normal bile contains no lipase.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

Annals of Rheumatic Diseases, London

2:75-166 (Dec.) 1940

- Treatment of Sciatica, Brachialgia and Occipital Headache. R. Stockman.—p. 77.
Fibrositis: Some Old and New Points of View. C. W. Buckley.—p. 83.
Nature of Fibrositis and Influence of Psychologic States on It. R. G. Gordon.—p. 89.
Fibrositis and Pain. J. B. Harman.—p. 101.
Differential Diagnosis of Periarthritic Fibrositis and Arthritis. C. H. Slocumb.—p. 108.
Fibrositis and Infection. D. H. Collins.—p. 114.
Laboratory Findings in Fibrositis. J. Race.—p. 127.
Fibrositis Among Industrial Workers. G. Slot.—p. 134.
Arthritic Sequelae of Pneumatic Drilling. W. S. C. Copeman.—p. 141.
Streptococcus Antifibrinolysin in Rheumatoid Arthritis and Spondylitis Ankylopoietica. C. B. Perry.—p. 147.

British Heart Journal, London

3:1-74 (Jan.) 1941

- History of Mitral Stenosis. H. Rolleston.—p. 1.
Chest Lead Changes as Sole Electrocardiographic Evidence of Heart Disease. R. M. Sussman and A. Lieberman.—p. 13.
Pulmonary Embolism: Diagnosis by Chest Lead Electrocardiography. P. Wood.—p. 21.
T Wave Inversion, Heart Size and Functional Capacity: Correlation Between These in 100 Patients with Hypertension. S. Schnur.—p. 30.
Atrial Septal Defect. D. E. Bedford, C. Papp and J. Parkinson.—p. 37.
Electrocardiographic Changes After Anoxemia and Exercise in Angina of Effort. C. Evans and G. Bourne.—p. 69.

British Journal of Experimental Pathology, London

21:315-368 (Dec.) 1940

- Indole as Precursor in Synthesis of Tryptophan by Bacteria. P. Fildes.—p. 315.
Concentration and Detoxification of Human Urine for Biologic Pregnancy Diagnosis. L. D. Scott.—p. 320.
Identity of Hyaluronidase and Spreading Factor. E. Chain and E. S. Duthie.—p. 324.
Some Observations on Preparation and Properties of Substrate of Lysozyme. L. A. Epstein and E. Chain.—p. 339.
*Action of Sulfanilamide on Virus of Lymphogranuloma Venereum. G. M. Findlay.—p. 356.
Inactivation of Cobra Venom by Finely Dispersed Emulsion. A. C. Frazer and H. C. Stewart.—p. 361.

Action of Sulfanilamide on Venereal Lymphogranuloma Virus.—In view of the wide range of chemotherapeutic activity of sulfanilamide, Findlay tried to determine whether the curative activity of sulfanilamide on the virus of venereal lymphogranuloma was also inhibited when *p*-aminobenzoic acid was administered simultaneously with the sulfanilamide. He also examined the effect of *p*-aminobenzoic acid and sulfanilamide on hemolytic streptococci injected intracerebrally in mice. His studies show that *p*-aminobenzoic acid given with sulfanilamide inhibits to a high degree the therapeutic action of sulfanilamide on the venereal virus. If the inhibitory action of *p*-aminobenzoic acid is due to the fact that it competes with sulfanilamide for a particular enzyme, it follows that *p*-aminobenzoic acid or some substance formed from *p*-aminobenzoic acid in the tissues is an essential metabolite of the virus of venereal lymphogranuloma. The question whether this substance can be synthesized by the virus or is an essential growth factor supplied by the tissues in which the virus grows requires further investigation. Since the viruses of venereal lymphogranuloma and trachoma are the only ones known to be acted on by sulfanilamide, it is tempting to regard them as the only two which require *p*-aminobenzoic acid for metabolism. For all other viruses *p*-aminobenzoic acid would thus not be an essential metabolite. An alternative theory, however, of the failure of sulfanilamide to act on all other viruses would be that in the course of their metabolism so much *p*-aminobenzoic acid is formed that the chemotherapeutic action of sulfanilamide is completely inhibited. Experiments are under way to determine whether the alternative theory is valid.

Journal of Laryngology and Otology, London

55:473-530 (Nov.) 1940

- History of Otology. D. Guthrie.—p. 473.
Aims and Methods of Teaching in Laryngology. T. B. Layton.—p. 495.
Teaching. W. M. Mollison.—p. 503.

Journal of Pathology and Bacteriology, Edinburgh

52:1-154 (Jan.) 1941

- Acute Necrotizing Glomerulonephritis. J. S. Dunn and G. L. Montgomery.—p. 1.
Experimental Phosphate Nephritis in Rat. D. McFarlane.—p. 17.
Normal Hemopoiesis in Intrauterine and Neonatal Life. J. R. Gilmour.—p. 25.
Studies on Suppurative Polyarthritis (Joint Ill) in Lambs. F. Blake-more, S. D. Elliott and J. Hart-Mercer.—p. 57.
Experimental Meningococcal Meningoencephalitis in Mice. C. H. Andrewes and Dora Lush.—p. 85.
Investigation of Outbreak of Food Poisoning Associated with Organisms of Proteus Group. K. E. Cooper, Joan Davies and Jean Wiseman.—p. 91.
Hemolysis and Production of Opalescence in Serum and Lecithovitellin by a Toxin of Clostridium Welchii. R. G. Macfarlane, C. L. Oakley and C. G. Anderson.—p. 99.
Estimation of Combining Power of Clostridium Welchii (Type A) Toxoid. F. P. O. Nagler.—p. 105.
Cross Infection in Diphtheria Wards. H. D. Wright, H. R. Shone and J. R. Tucker.—p. 111.

Lancet, London

1:67-98 (Jan. 18) 1941

- Present Position of Sulfonamide Therapy. W. R. Thrower.—p. 67.
Angina of Throat Associated with Mononucleosis. C. J. Fuller.—p. 69.
Anginose Glandular Fever. H. S. Barber.—p. 71.
*Chronic Benzene Poisoning. J. L. Hamilton-Paterson.—p. 73.
Pick's Syndrome: Case. Constance Shaw.—p. 76.
Traumatic Streptococcal Meningitis. D. W. Boatman.—p. 76.

Chronic Benzene Poisoning.—Hamilton-Paterson records a series of clinical and hematologic examinations in women exposed to benzene fumes. These women used a rubber solution of commercial 90 per cent benzene and petroleum spirit. They worked in a large room with natural ventilation assisted by extraction fans. Three cases of chronic benzene poisoning are described in detail and the hematologic pictures of 18 fellow workers are given. Benzene has a destructive action on the bone marrow, and aplasia may ensue; any of the cellular elements may be affected, and a large variety of changes are reported. Leukopenia is the commonest of these, but leukemia may develop either as an acute or as a chronic myelogenous form. Anemia usually occurs later in the disease, and most observers report a mild type with a low color index, but a severe hyperchromic type has been described. The common leukopenia may progress to complete granulocytopenia. In addition to the 21 women who were examined, 14 who were working at the same factory were questioned and 6 had symptoms which might be due to benzene. Unfortunately no blood counts could be made. The chief symptoms were giddiness, menstrual disturbances, epistaxis and watering of the eyes, nausea, morning heaviness, swelling of the legs and lassitude. The author stresses that it must be borne in mind that the initial symptoms in benzene poisoning are slight and easily overlooked, and that the patient may exhibit symptoms and signs pointing to some other diagnosis. Thus the diagnosis of benzene poisoning can be missed if the occupational history is not investigated and if only one type of blood picture is looked for. The blood may show either anemia or polycythemia, leukopenia or leukocytosis, a relative decrease or increase of polymorphonuclears, and eosinophilia. The commonest observations, however, are leukopenia and anemia. Menstrual disturbances are suggestive. The ratio of inorganic to organic urinary sulfates is decreased. Urinary sulfate estimation is valuable during and up to a month after the period of exposure to benzene. Residual changes in the blood picture may persist indefinitely and may be accompanied by disability.

Practitioner, London

146:1-64 (Jan.) 1941

- Treatment of Toxemias of Pregnancy. E. F. Murray.—p. 1.
Organization of Antenatal Care. R. C. Thomas.—p. 5.
Common Disorders Encountered at a Postnatal Clinic and Their Treatment. L. C. Rivett.—p. 12.
Management of Lactation and of Disorders of Breast in Puerperium. Meave Kenny.—p. 18.
Physiologic Principles in Treatment of Traumatic Shock. R. J. S. McDowall.—p. 21.
War Burns and Their Treatment. C. P. G. Wakeley.—p. 27.
Problems in Shelters: Occurrences and Means of Prevention of Acute Epidemic Infection. W. H. Bradley.—p. 38.
Pelvic Endometriosis. R. J. Kellar.—p. 45.
Modern Therapeutics: XIX. Drugs Used in Treatment of Gastric Disorders. T. I. Bennett.—p. 51.

Presse Médicale, Paris

48:993-1016 (Dec. 11-14) 1940

- Coefficient of Pulmonary Ventilation of Effort. C. Lian, Baraige, Danhier and J. Desclaux.—p. 993.
*New French Laws Governing Criminal and Therapeutic Abortion, Laboratory Diagnosis of Pregnancy and Supervision of Confinement Homes. M. Duvoir and G. Hausser.—p. 995.
Histogenesis of Bone Tissue in Light of Delayed Consolidation. A. Cretin.—p. 996.
Encephalitic and Postencephalitic Mental Changes. M. Hamvas.—p. 999.

New French Laws Controlling Abortion.—Duvoir and Hausser report the provisions governing criminal and therapeutic abortion, the laboratory determination of pregnancy and the supervision of confinement homes, enacted into law in 1939 with the active cooperation of the French Society of Legal Medicine. The penalties (penitentiary, fines, temporary or permanent cancellation of right to practice) for criminal abortion have been enlarged to include women subsequently proved not to have been pregnant. Physicians are freed from the obligation enjoined by the code of professional secrecy in matters pertaining to criminal abortion. Medical students and midwives make themselves liable to expulsion or exclusion from institutions of higher learning. The provisions against criminal abortion include practically every person who can be proved to have had a connection with the case. Therapeutic abortion is now legalized but surrounded by all possible safeguards against abuse. It must be approved by a conference of three men, the physician in charge and two consultants, one of whom must be a specialist on the list of the civil tribunal. The proceedings are recorded in writing. Therapeutic abortion is permissible only if it can be shown that the mother's life can be saved solely by the abortive act. The laboratory diagnosis for pregnancy must be recommended in writing, authorized by a physician and officially approved. It can be carried out only by laboratories accredited by the public health department. An official record is kept. Confinement homes must have permits to engage in business and are supervised for moral character and hygienic conditions.

Bol. de la Soc. Cubana de Pediatría, Habana

12:581-644 (Dec.) 1940. Partial Index

- *Vitamin C in Children in Bogotá. C. Torres Umaña.—p. 581.
Technic for Bronchography in Children. A. Castellanos, R. Pereiras and R. Montero.—p. 594.

Vitamin C in Children in Bogota.—According to Torres Umaña, scurvy is rare in Bogota. Elimination of the ascorbic acid in the urine for the first three hours after the injection of 7 mg. is variable in normal children and in those with nutritional or infectious diseases, but without scurvy. The amount of ascorbic acid in 100 cc. of cerebrospinal fluid is about the same as that eliminated in the urine. Children with infections develop insufficiency of vitamin C which can be diagnosed by the diminution of organic ascorbic acid but which does not produce scurvy. The author determined the amount of ascorbic acid in the cerebrospinal fluid of various infants with nutritional diseases or with infections but without scurvy and of the amount of ascorbic acid eliminated in the urine after the administration of 7 mg. of the acid. A vitamin C deficient diet was maintained throughout the experiment. He found that (1) at the beginning of the experiment the amount of ascorbic acid in the cerebrospinal fluid is about the same as that which is eliminated in the urine; (2) after a week in the hospital, without exposure to the sun, the amount of ascorbic acid is lowered in the cerebrospinal fluid and in the urine; (3) after a week of daily administration of ultraviolet radiation for fifteen minutes a day it increased at about the same values as those which existed at the beginning of the experiment. The same results were obtained when the experiment was repeated without previous injection of ascorbic acid. The results suggest that ultraviolet irradiation produces a synthesis of ascorbic acid by the body which varies with the person. He believes that sun irradiation stimulates an organic synthesis of ascorbic acid in man and animals and that the organic production of the substance compensates insufficient supply of vitamin C and prevents scurvy.

Klinische Wochenschrift, Berlin

19:1121-1152 (Nov. 2) 1940. Partial Index

- Interrelation Between Respiration and Circulation: Metabolism as Respiratory-Circulatory Regulator. G. Zaeper.—p. 1121.
Albucid (Acetylsulfanilamide) in Treatment for Epidemic Meningitis. W. Grunke.—p. 1125.
Specific Dynamic Action After Tolerance Test with Aminoacetic Acid. W. Siede and K. Tietze.—p. 1126.
*Follow-up on Person Immunized Against Tetanus. E. Kestermann and K. E. Vogt.—p. 1129.
Medullary Origin of Poikilocytes: Contribution to Present Status of Formation of Malformed Erythrocytes. G. Habelmann.—p. 1134.
Pathogenesis of Acute Diseases of Hemopoietic System. W. Szonell.—p. 1137.
*Night Blindness as Result of Deficiency in Vitamin A. A. Høyaard.—p. 1139.
Type Differentiation of Meningococci and Its Significance for Epidemiology of Meningococcal Meningitis. W. Goeters.—p. 1141.

Active Immunization Against Tetanus.—Kestermann and Vogt direct attention to the advantages of the active over the passive immunization, pointing out that in active immunization anaphylactic reactions do not have to be feared and that the protection persists for a long time. After the prophylactic administration of serum the antitoxin disappears from the blood stream in from ten to fourteen days. In active immunization, the repetition of injections and the intervals between them are important. The first injection produces comparatively little antitoxin; it makes the organism reactive; only the second injection produces a considerable increase in the antitoxin content. It has been found that the increase in antitoxin after the second injection is the higher, the longer the interval is between first and second vaccination. Intervals of eight or even twelve weeks result in much higher antitoxin titers than intervals of four weeks. However, even after active immunization the quantity of the specific antitoxin in the blood decreases, and French authors have demanded a repetition of the vaccination after one or two years. The authors investigated the antitoxin content of nineteen vaccinated persons at the end of one year. They found that although the antitoxin content of the blood had greatly decreased it was the higher the greater the blood antitoxin had been at the end of the inoculation in the preceding year. A new single "security" vaccination increased the antitoxin content of the blood. The new formation of antitoxin commenced from three to five days after vaccination, and at the end of six weeks it was from ten to three hundred and seventy-five times as high as the initial values (before the "security" vaccination). On account of the great reactive capacity of an organism which previously has undergone active immunization, the "security" vaccination produces such a degree of immunity that the administration of serum seems unnecessary in case of injuries suspected of infection with tetanus.

Night Blindness from Vitamin A Deficiency.—According to Høyaard, Eskimos daily consume approximately 50,000 international units of vitamin A plus some carotene, and their average visual distinction capacity is 1.56 ± 0.023 (for men) and 1.49 ± 0.028 (for women). Seamen (Germans, Norwegians, Swedes), whose daily intake of vitamin A averages between 600 and 1,000 international units, plus carotene, have a visual distinction capacity of 1.2 ± 0.011 . Norwegian students who daily consume an average of 3,600 international units plus carotene have a visual distinction capacity of 1.23 ± 0.016 . Seamen whose distinction capacity in dim light was reduced experienced an improvement following the intramuscular injection of 20,000 international units of vitamin A. The author concludes that the difference between Eskimos and Europeans is due to the lack of vitamin A in the diet of the latter. The vitamin A content of the Eskimo diet is of animal origin. In the diet of Europeans the most important sources of vitamin A are milk, milk products and eggs. It was long believed that vitamin A could be replaced by carotene, which occurs in many vegetables. It has been proved that some persons utilize only about 5 per cent of the carotene taken in with the food. For this reason a purely vegetarian diet without milk and eggs must be regarded as inadequate. Since an increase in the consumption of milk and eggs encounters economic difficulties, the author suggests, as a provisional measure, that certain foods, such as margarine, lard, milk and perhaps bread, be artificially fortified with vitamin A.

Zeitschrift f. Geburtshilfe u. Gynäkologie, Stuttgart**121:309-436 (Oct. 18) 1940**

- Positive Implantation Effect with Hypophysis of Early Pregnancy. K. Ehrhardt, T. Korschegg and E. Leinzinger.—p. 309.
 Shifting of Serum Protein Bodies in Normal Pregnancy and in Toxicosis. W. Neuweiler.—p. 317.
 Delivery in Case of Narrow Pelvis. A. Weissmann.—p. 331.
 Clinical Aspects of Uterine Myomas. T. Pütz.—p. 385.
 Clinical Aspects of Dysgerminoma of Ovary. E. Hohage.—p. 401.
 *Problem of Arrhenoblastoma. W. Kny.—p. 406.
 Sacral Teratoma: Two Cases. K. von Pallos.—p. 421.

Arrhenoblastoma.—Kny directs attention to a group of blastomas of the ovary which cause gradual disappearance of female characteristics and the development of virilism. Their varying microscopic aspects have given rise to different theories regarding their genesis and their classification. The author is inclined to accept Robert Meyer's theory. He presents a history of a woman aged 66 who had been troubled with dyspnea, cough, protracted diarrhea, loss of weight, enlargement of the abdomen and swelling of the legs. These symptoms were accompanied by falling out of the hair of the head and by the development of a beard. Necropsy revealed tumors of both ovaries which proved on microscopic studies to be tubular arrhenoblastomas of the atypical solid group of Robert Meyer. The bilaterality and the extensive metastases to the bones and the lungs make this case noteworthy. In view of the fact that the tumors of the two ovaries did not differ much in size and that their structure was identical, the author assumes that the tumors were primary and developed simultaneously. The metastases in the other organs showed an entirely different structure. However, a thorough postmortem examination disclosed no other primary tumor, particularly colloid cancer of the stomach. Changes in the thyroid corresponded to those found in status thyroadenalis. Microscopic examination of the adrenals was neglected, but the clinical signs justify the assumption of such a status. As a sequel to the skeletal metastases the peripheral blood presented the picture of a pronounced secondary anemia, and the liver and spleen exhibited considerable extramedullary erythromyelopoiesis.

Archiv für Japanische Chirurgie, Kyoto**17:1291-1524 (Nov.) 1940. Partial Index**

- *Clinical Experiences in Transfusion of Preserved Blood. A. Takeshita, S. Goya, Y. Ohashi, Y. Ri, A. Suko, T. Murayama, and H. Nagatani.—p. 1416.
 *Studies on the Therapeutic Effects of Vitamin B₁ in Peritonitis and Postoperative Paresis of Gastrointestinal Tract. J. Murakami and H. Utagawa.—p. 1483.

Transfusion of Preserved Blood.—Takeshita and his co-workers made clinical observations in transfusing 33 patients with blood preserved at room temperature for intervals of time varying from one to eighty-four days and 11 patients with blood kept at incubator temperature (35 C.) for one to nine days. In the absence of complications, the transfusion of blood kept at room temperature caused a slight elevation in blood pressure in patients with hypotension, whereas no significant changes were observed in persons with normal blood pressure. The transfusion of incubated blood was accompanied by a greater degree of fluctuation in blood pressure. Pulse rates were but slightly and temporarily accelerated following transfusion of blood kept at room temperature; but after transfusion of blood preserved at 35 C., especially in the presence of hemolysis, the pulse rates remained high for some time afterward. A somewhat similar effect on respiration was noted, in that the respiration remained accelerated after the transfusion of incubated blood. Irrespective of the form of blood used, body temperature became elevated only when complications developed. From these observations the authors conclude that the incidence of complications is practically identical (17.8 per cent) regardless of the nature of blood used in transfusion. The temperature of incubation should never be allowed to exceed 40 C.; but even blood showing a considerable degree of hemolysis as the result of preservation over a long period of time produced no complication other than a transient appearance of hemoglobinuria. Thus these investigators advocate the use of blood preserved at room temperature (10-18 C.) because of its greater convenience in management, since no special precaution for preservation need be taken in this respect.

Therapeutic Effect of Vitamin B₁ in Abdominal Surgery.—Murakami and Utagawa record instances of acute generalized peritonitis in which there was evidence of secondary avitaminosis B₁. The injections of large doses (10-50 mg.) of vitamin B₁ caused the cessation of vomiting and the resumption of normal peristaltic movements of the intestine. In order to study this effect further the authors carried out a series of experimental observations in rabbits, from which the following conclusions were reached: 1. Vitamin B₁ has a markedly beneficial effect in the treatment of intestinal paresis due to peritonitis or following abdominal surgery. 2. This effect, as seen in clinical as well as in experimental subjects, is due to the action of vitamin B₁ in the restoration of normal peristalsis and the alleviation of muscular atony of the intestinal walls. 3. The effective dose of the vitamin in the treatment of intestinal paresis varies, according to the condition of the patient, from 2 to 50 mg. injected intravenously and repeated every four hours. 4. The clinically demonstrable effect appears within thirty minutes after the injection and continues for approximately four hours. 5. There is a synergistic action of vitamin B₁ for a prostigmine preparation, since the combination treatment of these substances prolongs the duration of intestinal peristalsis and of normal tonus for seven hours, instead of but four hours with the use of vitamin B₁ alone.

Ugeskrift for Læger, Copenhagen**102:1187-1216 (Nov. 14) 1940**

- Ureter Calculi: Brief Review. H. K. Lassen.—p. 1187.
 *Ureterolithiasis and Its Treatment. K. Østerbye.—p. 1189.
 *Treatment of Ureteral Calculi. S. Moring.—p. 1194.

Ureterolithiasis and Its Treatment.—Østerbye reports ureterolithiasis, all unilateral, in 83 men and 30 women aged mainly between 20 and 45. Ureterolithotomy was done in only 8 cases, electroincision of the orifice in 1, 75 received purely expectant treatment and 20 expectant treatment together with dilation according to Böhlinger. Passage of the stone was observed or roentgenologically established in 53 (70.7 per cent) of the 75 cases and in 15 (75 per cent) of the 20. There was macroscopic hematuria in 30.4 per cent of the cases and microscopic hematuria in 64.6 per cent. The difference between ureteral and renal calculus is stressed. The author says that ureteral calculus occurs most often in men between 25 and 30 and is almost always unilateral, with sterile urine. Spontaneous passage of the calculus occurs in between 75 and 80 per cent of the cases. The concretions are small and mostly composed of calcium oxalate. Recurrence is seen in about 20 per cent of the cases, but between the attacks the patients are perfectly well. Infection and renal injury are rare. In most cases the prognosis is good.

Treatment of Ureteral Calculi.—Moring's material comprises 140 cases of ureteral calculus, only 6 of them bilateral, in 93 men with an average age of 38, 45 women with an average age of 36, and 2 children aged respectively 10 and 4. Twelve patients (9 per cent) had to be treated operatively, 6 primarily, 6 after unsuccessful endovesical manipulations. In 98 cases (70 per cent) endovesical treatment was given, namely attempts at removal of the stone by Böhlinger's forceps or Svend Hansen's instrument, or catheterization with injection of sterile oil or glycerin and dilation or electrocoagulation of the ureteral orifice. The author states that no complications set in which would contraindicate endovesical intervention. There were immediate or almost immediate results in 41 cases, including a number with symptoms of long standing. In 10 cases the stone did not pass until some time after the treatment. Spontaneous passage occurred in 21 cases, practically all with symptoms of only short duration. In some of the cases treated the calculus might have passed spontaneously, but it seemed reasonable to use an apparently safe method in order to shorten what might have become a longer course. As far as possible after-examination after from one half to five years was made of the patients discharged with the expectation that the stone would pass, and in most cases the symptoms had disappeared and the stone previously established could not be found, although few of the patients had noticed its passage. Only 2 cases had become complicated with a graver hydronephrosis.

THE STUDENT SECTION

of the

Journal of the American Medical Association

Devoted to the Educational Interests and Welfare of Medical Students, Interns and Residents in Hospitals

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Undergraduate and Graduate Medical Education for Negroes

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During the year 1930-1931 there were 21,597 medical students enrolled in the seventy-seven class A medical schools in the United States.¹ In twenty-five of these schools, at that time, there were 497 Negro medical students with by far the largest number attending Howard University Medical School and Meharry Medical College.

It is of interest that in the early years of the depression there was an actual increase in the total number of all medical students to a peak enrolment of 22,888 in 1934-1935. This upward trend was not reflected in the number of Negro medical students, as they had decreased to 402 at that time. It would seem that in these early depression years many college students who might normally have gone into selling stocks, bonds, real estate or similar fields of activity saw little or no opportunity there and turned their efforts to premedical and medical training. Negro students, hit more heavily by economic factors, had no funds to seek even this avenue of professional refuge and could not meet the financial demands of premedical and medical training. As a matter of fact, this was the general trend in all Negro professional groups during this period.²

From 1934-1935 there was a gradual decrease in the total number of medical students in this country to 21,291 in 1939-1940 (chart 1). Compared to 1930-1931 this represents a decrease of 3.1 per cent over the entire period. However, the enrolment of Negro medical students continued to fall steadily to a low of 350 in 1938-1939 (chart 2), a decrease of approximately 30 per cent compared to the 1930-1931 level. The greatest single factor in this steady decline has been the slower economic recovery of the Negro group as a whole. Depression hit the

Negro early and severely, and recovery has been proportionately slow. Incidentally, in years past it has been possible for Negro students to obtain remunerative work as Pullman porters, waiters and at similar tasks during the summer vacation months. During these periods many students could accumulate funds to return and assume the obligations of another year of medical training. These formerly lucrative positions became more and more difficult to obtain during depression years and, although the situation has been better during the past year or two, they are still more difficult to obtain than formerly.

As indicated previously, in 1938-1939 there were 350 Negro medical students enrolled in twenty-five class A medical schools in the United States. Forty-five (12.86 per cent) were distributed among twenty-three institutions. The remaining 87.4 per cent were enrolled at Meharry Medical College (183, or 52.29 per cent) and Howard University School of Medicine (122, or 34.85 per cent, chart 3). The latter two schools of medicine engaged in training Negro youth are therefore confronted with the tremendous responsibility and challenge of furnishing adequate opportunities for thoroughly sound undergraduate training for approximately nine tenths of the Negro medical students now studying in our American medical schools. Howard University, though technically a private institution, derives nearly three fourths of its income from the federal government. Probably no other nonmilitary institution of higher education in the nation receives so large a proportion of its income from federal government funds.³ Meharry Medical College is strictly a private institution and derives no support from the federal government. Both institutions have adequate physical plants and teaching hospitals. Both have endeavored to develop good faculties. As a matter of fact the preclinical departments of both institutions are staffed by thoroughly competent Negroes whose

Read before the Thirty-Seventh Annual Congress on Medical Education and Licensure, Chicago, Feb. 17, 1941.

1. Medical Education in the United States and Canada: Thirty-Ninth Annual Presentation of Educational Data by the Council on Medical Education and Hospitals of the American Medical Association, J. A. M. A. 113:757-860 (Aug. 26) 1939.

2. Lewis, Hyman G.: The Negro Business, Professional and White Collar Worker, J. Negro Education 8: 430-445 (July) 1939.

3. Wilkerson, Dorey A.: Special Problems of Negro Education, Washington, U. S. Government Printing Office.

training in their respective fields has been obtained in the outstanding medical educational centers in the United States and Canada. Building strong clinical faculties has been more

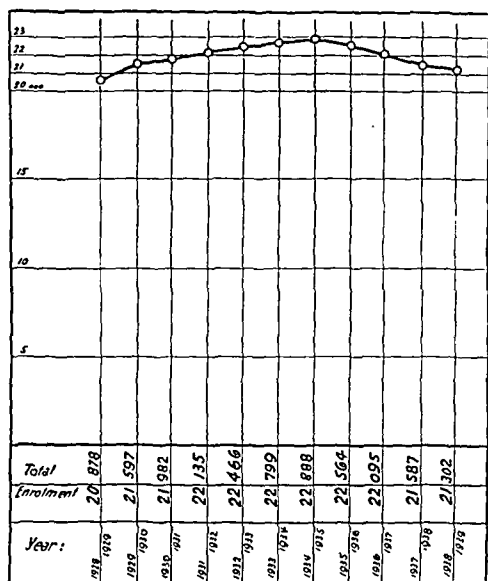


Chart 1.—Total enrolment of medical students in seventy-seven United States medical schools, 1928-1938.

difficult, but gradually capable Negro physicians have been sent on fellowships granted by certain foundations and have received excellent training. The clinical faculty at Meharry Medi-

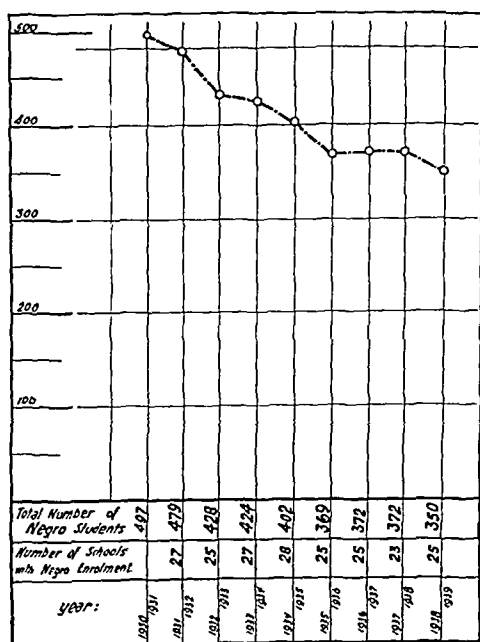


Chart 2.—Registration of Negro medical students in United States medical schools, 1930-1938.

cal College at the present time is a mixed group with a large number of excellent white physicians and surgeons cooperating with the Negro staff in developing a good clinical experience for the medical students. Thus, every effort is being made to offer thoroughly satisfactory

opportunities for carefully selected groups of students in these two institutions.

Until relatively recently the premedical training offered the students in a number of the small Negro colleges was inadequate. Numerous small sectarian institutions were not equipped with the physical facilities to conduct proper scientific courses, and in many instances the faculties were not adequately prepared to teach certain subjects. Undoubtedly, in some cases, college degrees were being bestowed on students for work that could hardly have passed good high school standards. This criticism was equally applicable to a number of small sectarian white schools. The development of accrediting organizations for rating colleges has been one of the greatest forward steps that have ever been taken in stimulating many of these institutions to do more acceptable work. Relatively few Negro colleges have as yet attained class A rating, but those which have succeeded in doing so are conducting work that compares favorably with that of our best institutions. Other schools not so rated are finding it necessary to build stronger faculties so as to improve their teaching programs. The result of these efforts to attain satisfactory rat-

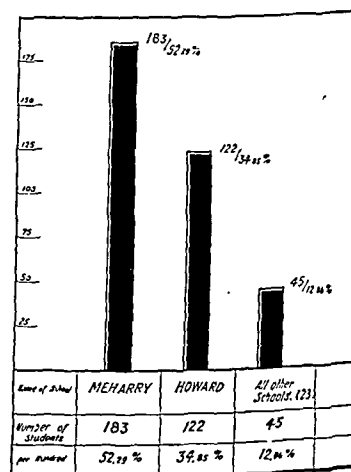


Chart 3.—Distribution of Negro medical students in United States medical schools, 1938-1939.

ings has brought about appreciable improvement in the preparation of Negro premedical students. Although the same problems existed in many of the small sectarian schools for white students, a relatively larger proportion of Negro students had to attend schools of this type to receive an education, and they have consequently played a more vital role with the Negro group. The development of good state institutions for Negroes during the past few years in parts of the South has also made it necessary that the private colleges in these regions either offer something fully as good or better, or else face the possibility of having to close their doors.

In 1927, the first year for which statistics are available regarding internships for Negro physicians, there were more Negro physicians graduating than there were internships available.⁴ One hundred and nineteen Negro phy-

4. Bousfield, M. O.: Internships, Residencies and Postgraduate Training, J. Nat. M. A. 32:24-30 (Jan.) 1940.

sicians graduated from eleven medical schools in 1927. Only seventy-one (60 per cent) were able to serve internships. Twelve hospitals for Negroes providing sixty-eight internships were approved for internships at that time (table 1).

TABLE 1.—Approved Hospitals for Negroes, with Number of Beds and Number of Internships, 1927

Hospital	Beds	Interns
Flint Goodridge, New Orleans.....	68	3
Freedmen's, Washington, D. C.....	268	24
Kansas City General No. 2, Kansas City, Mo....	175	8
George W. Hubbard (Meharry), Nashville, Tenn.	130	5
Harlem, New York.....	348	5
John A. Andrew Memorial, Tuskegee, Ala.....	75	3
John D. Archbold, Thomasville, Ga.....	103	1
Lincoln, Durham, N. C.....	98	2
Mercy, Philadelphia.....	90	4
Provident, Chicago.....	58	2
St. Agnes, Raleigh, N. C.....	90	3
St. Louis General No. 2, St. Louis.....	385	8
Totals.....	1888	68

From Negro Hospitals, Julius Rosenwald Fund, 1931: Adapted from Bousfield.⁴

Since 1927 the situation regarding the number of graduating Negro physicians and the internships available has materially changed. In the last approved list of the American Col-

TABLE 2.—Negro Hospitals Approved by the American College of Surgeons, October 1940

Name of Hospital	City and State	No. Beds	No. Interns
Veterans Administration.....	Tuskegee, Ala.	1,408	..
John A. Andrew Memorial.....	Tuskegee, Ala.	70	..
Brewster.....	Jacksonville, Fla.	75	..
Clara Frye Tampa Mun. Negro.....	Tampa, Fla.	72	..
†Charity.....	Savannah, Ga.	55	..
†Provident.....	Chicago	194	7
†Flint Goodridge.....	New Orleans	100	..
†Provident.....	Baltimore	138	6
†Edyth K. Thomas Memorial.....	Detroit	143	..
†Parkside.....	Detroit	64	..
†Trinity.....	Detroit	115	..
†Sidney A. Sumbly Memorial.....	River Rouge, Mich.	35	..
†Kansas City General No. 2.....	Kansas City, Mo.	274	12
†Wheatley-Provident.....	Kansas City, Mo.	53	..
†Homer G. Phillips.....	St. Louis	738	30
Peoples.....	St. Louis	50	..
..	..	30	..
..	..	103	4
..	..	68	..
†St. Agnes.....	Raleigh, N. C.	100	..
†Kate Bittings Memorial.....	Winston-Salem, N. C.	130	4
†Mercy Hos.....	..	115	5
†George W.....	..	183	8
†Whittaker.....	..	50	..
†Norfolk Community.....	Norfolk, Va.	61	..
†Burrell Memorial.....	Roanoke, Va.	44	..
†Freedmen's.....	Washington, D. C.	406	16
		4,877	92

Note: There are 2,281 beds in the 9 hospitals listed as training interns.

Total number listed for approval....	27
Total number fully approved.....	22
†Total number provisionally approved	5
†Total number approved for residency and intern training.....	13

Source, Approval Number, Bulletin of American College of Surgeons.⁵

lege of Surgeons⁵ there were twenty-two fully approved Negro hospitals. Five hospitals are listed as provisionally approved. Only thirteen of these twenty-seven hospitals are approved for training interns by the Council on Medical Education and Hospitals of the American Medical Association. There were

ninety-two internships available in nine of the thirteen hospitals in this approved group (table 2). Additional excellent internships for Negro physicians are available in certain hospitals not listed as being specifically for Negroes. These are usually classified as city or county hospitals and include such institutions as Harlem Hospital in New York, Los Angeles County Hospital and Cleveland City Hospital, where Negro physicians either have served or are serving as house officers. The total number of satisfactory internships for Negro physicians in fully accredited hospitals is approximately one hundred and fifty. In the remaining Negro hospitals on the approved list of the American College of Surgeons but not approved for internship by the Council on Medical Education and Hospitals of the American Medical Association there are additional needs for sixteen interns.⁶

But in the meantime, while the total number of the approved internships for Negro physi-

TABLE 3.—Residencies Available for Negro Physicians, 1939

Bousfield: Commission on Medical Education and Hospitals of the National Medical Association, Aug. 9, 1939.

Hospital	Medicine	Surgery	Pediatrics	Obstetrics-Gynecology	Obstetrics	Pathology	Radiology	Gynecology
Freedmen's.....	1	1	1	1	..	..	..	..
George W. Hubbard.....	1	1	1	1	..	..	..	..
Harlem.....	2	1	..	..	1	2	..	2
Homer G. Phillips.....	1	1	..	..	..	..	..	..
Provident, Baltimore.....	1	1	..	..	1	..	..	..
Provident, Chicago.....	1	4	1	..	1	1	1	..
St. Mary's Infirmary.....	1	1	..	1	..	..	..	..
Wheatley-Provident.....	..	..	1	..	..	..	..	..
Total.....	6	11	5	3	3	3	1	2
Total Residencies—34								

cians has increased, there has been a persistent decline in the number of Negro physicians available. Thus, in 1938-1939 there were only sixty-nine Negro physicians graduated from American medical schools. At the present time it is difficult for hospitals fully approved by the Council on Medical Education and Hospitals of the American Medical Association to obtain a sufficient number of interns and it has become practically impossible for nonapproved hospitals to obtain house officers. At least one very valuable thing has resulted from this need for more Negro graduates, for it has clearly been shown that the nonapproved and non-accredited institution which can offer nothing but room, board and a lot of hard work with no supervision has no attraction for the young physician. Certainly hospitals that cannot offer reasonable educational opportunities for interns should not pretend that they have internships available. Institutions of this type may have some attraction for men who have finished at least a year of internship and possibly a resi-

5. Approval Number, Bull. Am. Coll. Surgeons, 25: 269-712 (Oct.) 1940.

6. Information obtained directly from hospital administrators, January 1941.

dency, who are willing to serve as well paid house physicians for one or more years before entering practice themselves.

The young Negro physician is more and more desirous of continuing hospital experience beyond the internship. Far more young men and women now apply for residencies than there are residencies available. In his report for the Commission on Medical Education and Hospital of the National Medical Association in 1939, Bousfield⁴ lists thirty-four residencies available for Negro physicians (table 3). With the development of the new tuberculosis unit in connection with the Freedmen's Hospital in Washington, D. C., new residencies in tuberculosis will be opened to Negro physicians. Four residencies are available at Flint Goodridge Hospital in New Orleans, and new residencies are just being developed in connection with the K. B. Reynolds Memorial Hospital in Winston-Salem, N. C. Thus, opportunities for prolonged hospital experiences are increasing for Negro physicians.

One of the institutions offering great potentialities for advanced hospital experience for Negro physicians is the magnificent Homer G. Phillips City Hospital in St. Louis, where a program incorporated with the Washington University School of Medicine is being conducted. Neurology and psychiatry are now being developed in this institution in a way that will offer splendid opportunity in that field. The possibility of special training in ophthalmology, orthopedic surgery and similar special lines is almost nonexistent in the present group of hospitals where Negro physicians are being trained.

With more and more Negro physicians desiring hospital training in the form of residencies, it is obvious that the opportunities now available are inadequate.

In the past the large majority of physicians, once having entered into practice, ended their educational career. A few outstanding, sincere and ambitious individuals managed to obtain some postgraduate experience. In certain areas in the United States there has been no opportunity for the Negro physician to gather with his white colleagues in the city, county or state meetings. The Negro physician was, and still is to a large extent, dependent on himself entirely when he begins his practice.

Fortunately, during the past several years in areas where there have been several Negro physicians within reasonable distance medical organizations have been created. Some of the Negro city and state medical organizations in the South are now developing into thoroughly creditable medical societies. I can speak of at least two of these Negro state medical societies which I had the privilege of attending during the past year. The Mississippi State Medical

Society met in Vicksburg last April. Most of the Negro physicians in the state of Mississippi attended. The material presented was of excellent quality and the discussions which took place were as interesting and profitable as I have heard in many other medical organizations. The Volunteer State Medical Society, which is the Tennessee Negro medical society, met at Meharry Medical College in Nashville last June. This meeting was well attended by the Negro physicians of the state. The papers and discussions during the three day session would have been a credit to any state medical organization in the country. The Mound City Medical Society of St. Louis is also an active organization interested in the educational advancement of Negro physicians, and annual meetings have been well planned and very profitable.

In South Carolina, North Carolina, Georgia, Louisiana, Florida, Texas and Kentucky there are also groups of Negro physicians getting together annually for short medical conferences and clinics. A number of the faculty members from Howard University and Meharry Medical College have taken active part in these clinics and in the presentation of papers.

Where good hospital facilities are available, special courses are now being offered for Negro physicians. These vary from a few days to two weeks or longer. Some of these are simply refresher courses, some are adapted to summarize recent developments in diagnosis and therapy, and some are being directed in certain fields such as tuberculosis, venereal disease, pediatrics and maternal health. The splendid cooperation of white and Negro physicians in many of these centers is bringing excellent opportunities to the Negro physician in general practice. This is especially true at St. Phillips Hospital, sponsored by the Medical College of Virginia, at Flint Goodridge Hospital in New Orleans, where staff members from both Tulane and Louisiana State University School of Medicine give assistance, at Freedmen's Hospital in Washington, D. C., at George W. Hubbard Hospital of Meharry Medical College in Nashville, at Homer G. Phillips Hospital in St. Louis, at Provident Hospital in Baltimore and at Provident Hospital in Chicago.

We as medical educators are fully aware that there are no first, second and third rate ways of teaching medicine. If it is to be taught at all, it must be taught properly. During his course in medical school and his subsequent training in the hospital, the medical student and the young physician must ignite that spark which is going to make him a student the rest of his life. He needs to keep in contact with medical progress as long as he lives. He must take his medical

journals and, above all, he must read them. He should have the opportunity of getting in touch with his fellow colleagues and comparing his experience with theirs. He must learn that he can never let down. He should have affiliation with his city, county and state medical society associations. He should be a Fellow of the American Medical Association and get *THE JOURNAL* weekly. Spare minutes spent with *THE JOURNAL* bring him a wealth of up to the minute information.

These are all factors that help to keep physicians on their toes.

The Negro physician is expected to face the same medical course as any other student, he is required to pass the same state board examinations, he is expected to abide by the same laws, pay his taxes in accordance with his ability, and in general, play the role demanded of any decent citizen and well trained practitioner of medicine. The Negro physician needs every possible opportunity to keep in touch with medical progress. The American Medical Association through its Fellowship and *THE JOURNAL* offers, it seems to me, the best means for the average physician to keep abreast of medical trends. It is my sincere hope that, in those regions of our country where Negro physicians are still denied the right of Fellowship in the American Medical Association, careful study be given to the possibility of developing plans for the recognition of Negro medical organizations so that this opportunity for continuous education through *THE JOURNAL* and the Association may also be extended to them. In the end, it will mean better medicine, better cooperation and a truly worth while improvement in the care of the Negro physician for his patient.

SUMMARY

1. In 1938-1939, 1.64 per cent of the medical students in the United States were Negroes.

2. Eighty-seven per cent of the Negro students enrolled in the United States study at Howard University and Meharry Medical College.

3. The enrolment of Negro medical students had shown a continuous decrease from 1930-1939 with a slight forward trend during the past year.

4. Prior to 1930 the opportunities for internship for Negro physicians in accredited hospitals were not sufficient to care for the annual graduating group.

5. Since 1930 there has been an increase in the number of internships available for graduates in accredited hospitals, so that there are now more good internships available than there are graduates to fill them.

6. The number of residencies for Negro physicians, although increasing, does not begin to meet the demand for continued hospital training.

7. Opportunities for graduate training for Negro physicians are gradually increasing.

8. Negro medical societies are being organized, and carefully planned programs are being developed.

9. Cooperation between white and Negro physicians in many parts of the South is an important factor in the improvement of opportunities for the continuation of study for Negro physicians.

10. It is desirable that affiliations be developed between white and Negro medical societies in certain parts of the South which will permit Negro physicians to become active members of the American Medical Association.

Digests and Reviews

THE ART OF SURGERY

Condensation of address by Dr. Elliott C. Cutler, Moseley professor of surgery, Harvard Medical School, Oct. 3, 1940, before the North Side Branch of the Chicago Medical Society and published in the Aesculapian, November 1940.

I teach pupils that the principles of surgery are simple and few, that they consist in anesthesia, hemostasis and asepsis. The surgeon who practices to the fullest these three principles will have accomplished all the essentials for a perfect surgical undertaking, for if the patient does not bleed or suffer pain or become infected the surgeon may pass from one cavity of the body to another and the patient will recover without untoward event. It is a sad commentary on the ability of the human mind to absorb education that it takes six to eight years to learn even the rudiments of these principles.

Can one have perfect hemostasis in a fifteen minute procedure? Can one be gentle to each little cell in that period of time? Doesn't the surgeon know that a wide-mouthed hemostatic clamp in a piece of tissue will kill a thousand cells and leave a slough in the wound? Can he not envisage the effects of dry gauze on these cells, each one but a tiny drop of water? The choice of a safe anesthetic, suited to the disorder and the physiologic reactions of the individual patient, will obviate speed in operating.

Hemostasis can be accomplished only by the proper use of hemostats. They must be finely pointed so that only a minimum of tissue is crushed. They are better properly placed on a vessel before it is cut in order that tissue juices may not enter the open mouthed vessel and encourage thrombosis. If a large vein is exposed with a tributary in it, the tributary vein must be closed close to the major vessel lest there

be a pool of blood in a vein through which the current does not pass and in which thrombosis again is a peril. And when important vessels are tied in difficult areas it is not sufficient to tie the vessel alone, but the tissue near it must be first transfixated with a needle lest the ligature slip and a catastrophe occur.

Blood must not be lost or else we will hear all this nonsense about giving a patient a transfusion following a surgical operation. Transfusions following surgical procedures are but a commentary on the type of surgery performed, except in those conditions in which the disease itself requires transfusion. And those who have to use transfusions to get through their daily surgical tasks should be honest with themselves and their patients and take up some other line of work.

Asepsis is a knottier problem. The surgeon is late and the scrubbing of his hands is hurried. Or an instrument is dropped on the floor and he berates the nurse until she brings him back his pet instrument improperly sterilized. Or he has a coryza, and rather than put off the procedure he takes a chance.

What surgeon knows fully the working of the steam autoclave? If it breaks down, he tells his head nurse to fix it. She summons the hospital superintendent, who sends a plumber and the matter is patched up. Is the autoclave now competent? Has he inserted cultures to see whether the material is killed within the proper time limits? There must be some one in each hospital who understands these machines. They must be tested from time to time. The steam supply must be adequate. All air must be evacuated if sterilization by steam is to be satisfactory. If the machine functions perfectly there is no safeguard against the busy nurse. There must be strict discipline to ensure that materials remain in the sterilizer a proper length of time.

Spore-forming organisms are not killed in the ordinary autoclave. Contamination is here prevented by making every effort to have materials free of spore bearers when they enter the autoclave. All instruments used in operations on the intestinal tract are potentially infected with sporular organisms. Such instruments immediately after use should be submitted to special sterilization at high pressure. When cleaned, oil must not be used in the joints, for bacteria to be killed by steam or boiling must be wet. A spore suspended in a drop of oil is not damaged by boiling water, since it cannot be wetted. This is an important detail and surgeons should look to their own instruments when gas infection occurs following a surgical ordeal.

BACKGROUND OF THE SURGEON

The surgeon must be a pathologist and preferably a microscopist. Thus, the background of the surgeon must be broad and thorough. This

means graduation from a competent medical school and somewhere between five and eight years' postgraduate training under a competent master, and this time is better spent for the most part under a single master. One of the pathetic observations made by teachers is the wandering from clinic to clinic of a great group of young men. They stay long enough in one place to learn a smattering of what is going on and leave just when their chief is getting to know them and about the time his guidance might be of supreme importance to them. The technics in the different clinics vary. The young surgeon should not try to learn a lot of different technics. Learn one completely and well, and the results will be good. If the education of the surgeon is such that he has been taught to use only his hands, if he has gone steadily from one clinical post to another without a breathing space in which to use his brain, he will become in time an artisan, not an artist.

This is part of the price which all pay who must conduct a technical career. Consider a young surgeon interning. Urgent necessity motivates his every move. He must give an anesthetic, set a fracture, go around with the chief, do a white count, in all of which there is a minimum of intellectual endeavor. He doesn't think what to do; he merely learns how to do it. Instead of synthesizing ideas, he spends his time memorizing. This is a low form of intellectual endeavor and, if continued for a long time, will lead to deterioration of the higher intellectual faculties.

This type of artisan surgery is common among surgeons. Such operators do good by improving technical methods, but on the whole their outlook is narrow. If they find gallstones in a roentgenogram they are prone to think that they should come right out, not realizing that many people live to old age with no symptoms of biliary disease and yet at autopsy the gall-bladder is found choked with stones. The man brought up in this type of surgery rushes from place to place, removing items from the human body when thoughtfulness might obviate much of this. We have to fight against this in the education of the young surgeon. From time to time the young surgeon must be given a problem and work away from the clinic. He must be encouraged to travel to see other surgeons work that he may speculate more, not on how the task is to be done, but on whether it is worth doing. What is important for the young doctor to learn is how to use his mind, how to make observations, and how to add these observations together and synthesize a new idea. That is education, not information.

INTERNSHIP OF HARVEY CUSHING

My former chief, the late Harvey Cushing, often told this story: He began his internship at the Massachusetts General Hospital when

J. C. Warren was chief of the hospital. True to the tradition of that day, Dr. Warren operated with great speed, and young Cushing was greatly impressed. Cushing then went to Baltimore to work under William Halsted. He was not allowed in the operating room his first day there, though a patient from his ward went to be operated on. With misgiving, young Cushing watched three hours go by, while the great master took such exquisite care with each cell that there would be no injury to the patient. Finally, when the patient returned to the ward, Cushing was ready with the customary medication that he had been ordered to give when at the Massachusetts General Hospital. When he was about to administer these medicaments, Dr. Halsted entered the ward. Dr. Cushing said, "I am carrying out the usual procedure." Dr. Halsted said, "Is my patient ill? That is unusual. Let us examine her." Examination revealed normal pulse rate and normal respiration. "What is in the syringe?"

"Strychnine" said Cushing.

"What do you think strychnine will do for the patient?"

Having been educated where memory and orders were the rule, Cushing did not know. He was informed by Dr. Halsted that he should read up on strychnine. "If your reading convinces you that strychnine is good for the patient by all means use it," said Halsted.

Surgery is both an art and a science, and the art can be learned only by the first method of education, that of apprenticeship. When we see the trained surgeon working with perfect regard for anesthesia, hemostasis and asepsis, we really see an artist. He treats his instruments as a painter treats his brushes or a violinist his bow. He uses nicely balanced instruments. He is neat in his technic. His wound is never full of blood. The tissues are treated gently. No cell dies through roughness on his part.

The fullest expression of the use of one's hands may be seen in the ritual of a great surgical procedure. There is strict discipline, precision, gentleness, beauty. The performance of such a task requires more than craftsmanship. It is the use of the hands dictated by a trained intelligence.

Comments

BANTING WAS ORDERED BACK

Frederick G. Banting began his course in medicine at the University of Toronto Medical School in 1912. When a junior in medical school in 1915 he enlisted as a private in the Canadian army. Banting was ordered back to school to finish his university training, graduating in 1916. He at once joined the Canadian Army Medical Corps and was wounded at Cambrai in France in September 1918. He was awarded the Military Cross for valorous conduct during the Cambrai engagement. In 1920 he was resident surgeon in the Hospital for Sick Children in Toronto; then he moved to London, Ontario, as research assistant in the department of physiology of the University of Western Ontario for the session of 1920-1921 and soon thereafter began the research which led to the discovery of insulin, for which he was awarded the Nobel Prize in Medicine, along with Prof. J. J. R. Macleod, in 1923.

According to Dr. Charles H. Best in the *Canadian Medical Association Journal*, April 1941, Banting had a definite philosophy of life, which he once expressed in the following words:

It is not within the power of the properly constructed human mind to be satisfied. Progress would cease if this were the case. The greatest joy in life is to accomplish. It is the getting, not the having. It is the giving, not the keeping. I am a firm believer in the theory that you can do or be anything that you wish in this world, within reason, if you are prepared to make the sacrifices, think and work hard enough and long enough.

TO STUDY EFFECTIVELY

"Against the college of liberal arts must be charged the complaint that too many of its graduates do not know how to read understandingly, to write straightforwardly and to study effectively. Reading has apparently been done largely in a skimming fashion with the sole intent of extracting the gist of thought. Many beginning students find it a wholly new experience to read closely knit text-matter, in which each word and punctuation mark carries definite significance. Within a week or two the medical tyro learns to his dismay that reading and rereading an assignment is not highly profitable unless he has pondered and digested the facts at hand, has arranged these facts in orderly sequence, has fixed their architectural framework in a vivid memory pattern, and has integrated the raw facts and his previous store of basic information into a significant mosaic. Here the instructor must continuously preach the wisdom of imbibing word upon word, line upon line, precept upon precept. . . .

"To study efficiently and to budget time proportionately is the earmark of a superior student. This is admittedly a by-product of previous training, but of greater weight is the fact that proficiency comes only when an individual is innately well endowed. An instructor rarely feels more impotent than when an earnest but dull student confides that all his difficulties trace to not knowing 'how to study' and

innocently requests the magic secret. If we are candid with ourselves we must admit that a certain fraction of our student body is uninspired and lacking in fundamental scholarly instincts.

"These students never can attain a high degree of understanding, let their spark of ambition glow as brightly as it may. To be sure, we can supply some rather obvious practical hints, but we cannot hope to prevail against a defective germinal legacy. Neither can an adequate reply be made to such a common request as 'how to know what is important and what is not.' The mere fact that such a query is made reveals at once the ingenuousness of the inquirer and his lack of understanding of his own incapacities. . . .

"Strong students from small colleges have to learn by test that they need ask no handicap in the race for preferment. Weaker, though eager, students from the same type of school may be shocked into the realization that they cannot hope to ride so high as formerly in the stiffer competition now faced. Conversely, there is often a pleasant surprise in store for the students from the more exacting large universities; they frequently find themselves surpassing their

previous relative standings. Possibly this is due to a more careful appraisal of merit; possibly it is a reaction to more intimate contact with those in charge of courses. Still another experience in revaluation comes to the student of potential ability who squandered much of his energies in campus activities, athletic and otherwise. Freed from these distractions, innate capacities can begin to yield concrete scholastic rewards. So it is that the first quarter in medical school turns into a proving period in which strangers become acquainted with each other, with new working conditions and with new standards. Not until the end of that quarter do they begin to know what order of success they have achieved. Moreover, for many the period of adjustment does not reach a conclusion at this time. Deflation, humiliation and discouragement are the necessary lot of many. For these the winter quarter looms as a probationary period in which the recapture of moderate success or the recouping of personal prestige must be accomplished. The teacher's role during these quarters is a serious and important responsibility."—Arey, L. B.: *Lo, the Poor Freshman!* *Quart. Bull. Northwestern Univ. Med. School*, Spring Quarter, 1941.

DO YOU KNOW WHAT PHYSICIAN—

1. Was a close friend and attendant to Emperor Napoleon?

2. First discovered that the anopheles mosquito is a vector of malaria fever?

3. Founded the U. S. Army Medical Library, which is the largest medical library in the world?

4. Established the U. S. Army Medical Museum?

The answers are on page 2120.

Medical College News

Medical schools, hospitals and individuals will confer a favor by sending to these headquarters original contributions, reviews and news items for consideration for publication in the Student Section.

British Medical Students to Study in the United States

The president of the Rockefeller Foundation, Raymond B. Fosdick, announced, March 17, that the foundation had appropriated \$100,000 to initiate a plan of bringing young British medical students to the United States in order that they may complete their medical education here. Unless unforeseen difficulties arise it is anticipated that some British students will arrive in America this spring and the balance by the fall term of school. The German air raids on London and elsewhere in Great Britain have destroyed teaching hospitals and medical schools to the extent that at this time only one teaching hospital in London has escaped bombing. Twenty-five medical schools in the United States and Canada have indicated their willingness to accept British students and some have offered to remit the tuition. Lord Lothian, British ambassador to the United States, asked the Rockefeller Foundation shortly before he died whether it would consider the possibility of giving a number of British medical students the opportunity to complete their training. The suggestion was warmly supported by leading British medical authorities.

Sigma Xi Alumni Research Fund

With a small gift from the National Research Council and contributions from a few alumni, the Society of the Sigma Xi Alumni Research Fund for Grants-in-Aid was founded in 1920. At the time of its founding the movement was presented to the entire body of alumni and every year since the opportunity to contribute to this fund has been presented. Since 1936 the society has added to the contributions received the income from permanent funds. During the twenty years of operation of the fund, \$36,800 has been distributed to 134 applicants. The grants are distributed in small amounts to as large a number of research workers as possible, and they may be used to cover the purchase of new apparatus, expenses for assistants, publication and the like. The Committee of Award at present comprises Gary N. Calkins of Columbia University; Harlow Shapley of Harvard University, and W. R. Whitney, vice president in charge of research of the General Electric Company, chairman. Last year \$3,350 was distributed in fourteen awards. Contributions to this fund and applications for grants-in-aid should be made to the National Secretary, Society of the Sigma Xi, Yale Station, New Haven, Conn.

Harvard Changes Method of Conducting Examinations

According to the report of the dean, Dr. C. Sidney Burwell, for the year 1939-1940, Harvard Medical School, Boston, has made important changes in the method of conducting the fourth year general examinations. For the next two years, an experimental period established by the faculty, students will be permitted to offer the examinations given by the National Board of Medical Examiners in lieu of the written general examination now set by the Harvard Medical School. The oral examinations, which are given by the examination committee to students who are candidates for honors and those who are possible failures, will be conducted as in the past. This change is one of a series of experiments which have been made with this examination in the past years.

Professor Carlson Addresses Michigan Group

At the initiation of the honorary medical society Alpha Omega Alpha at the University of Michigan, Ann Arbor, Dec. 18, 1940, Dr. Anton J. Carlson, professor emeritus of physiology of the University of Chicago, gave an address on "Science versus Life." The following members of the senior class of the medical school at Michigan were made members of the organization at this time: Harford W. Friedman '41, Herman Harvey Gass '41, Gordon R. Harrod '41, Jack Lapides '41, Charles R. Lowe '41, Philip S. Peven '41, Daniel C. Siegel '41 and Robert F. Ziegler '41.

University of Georgia

A university music association is being organized at the University of Georgia School of Medicine, Augusta, for the purpose of advancing culture in the medical school and to make closer union with a parent school at Athens, Ga. Dr. Irvine Phinizy is chairman of this activity.

Five students were selected in the spring election for membership in Alpha Omega Alpha honorary fraternity: William H. Bonner, William S. Boyd, James M. Combs, William F. McKemie and Herman K. Moore. These men will be inducted May 7, at which time Henrik Dam, associate professor of biochemistry at the University of Copenhagen, will give an address on vitamin K.

Tufts New Chapter of Alpha Omega Alpha

Alpha Omega Alpha honorary medical fraternity, established in 1902 to encourage scholarship, installed its forty-fourth chapter at Tufts College Medical School, Boston, December 2. Dr. Hyman Morrison, clinical professor of medicine, was chairman of the faculty committee on arrangements. The following students, all members of the class of 1941, have been elected to this group: Carroll Bryant Jr., Carl J. Antonellis, George A. Dodge II, Clement S. Dwyer, Herbert F. Hager, Jesse G. Garber, Alfred Kant, Arthur N. Kelly, John L. O'Hara and Raymond Yesner. A dinner followed the installation ceremonies in Curtis Hall on Tufts Campus in Medford.

University of Virginia

Leonard J. Yamshon, junior in the University of Virginia Department of Medicine, Charlottesville, received the annual undergraduate award, a gold medal, by the Phi Lambda Kappa fraternity for a scientific thesis. The second Alpha Omega Alpha lecture of the year at the University of Virginia Department of Medicine was given February 7 by Dr. Isaac A. Bigger, professor of surgery, Medical College of Virginia, Richmond, on the ligation of large arteries.

Louisiana Fellows of Gorgas Society

At a meeting of the Agramonte chapter of the Gorgas Medical Society at Louisiana State University School of Medicine, New Orleans, the following students were approved as new fellows of the society: Hubert Chidester Ashman '43, Charles Richard Bates Jr. '43, Daniel Winston Beacham '43, Howard Albert Buechner '43, Norman Burnstein '43, Philip Louis Cenac '43, Thomas Madison Durham Jr. '43, Philip Borrello Johnson '43, Kay Kohara '43, Louis Levy '43, Douglas Lindsey '43 and George J. Zibilich '43.

This society, named after the late Dr. William Crawford Gorgas, was organized to foster and encourage the highest ideals in medical students. The first chapter was founded at the University of Alabama School of Medicine. In 1932 the Aristides Agramonte chapter was organized at Louisiana State University School of Medicine. Dr. Aristides Agramonte played a great role in the conquest of yellow fever and was the first professor of tropical medicine at Louisiana.

The Gorgas Medical Society is composed of all the members of the second year class in medicine. After the first semester of the second year, the heads of departments select candidates for the fellowships on the basis of scholarship, character and promise of research ability and leadership; the proceedings are secret. A sealed list of nominees is handed to the president of the society in open meeting, the seals are broken and the roster of candidates is disclosed to the society. After discussion in the absence of the candidates, the society votes by secret ballot on each candidate. Thus, each candidate is nominated by the faculty committee and is accepted or rejected by the students themselves. Each fellow is given a key. Fellowship in the Gorgas Society is one of the highest honors available to medical students at Louisiana. The Louisiana chapter and the Alabama chapter, which are affiliated, from time to time confer honorary fellowship on distinguished medical men. Following are some of the honorary fellows of the Gorgas Society: Drs. Rudolf Matas, Arno B. Luckhardt, Morris Fishbein, Carlos Finlay Jr. (Habana, Cuba) and Herbert C. Clark.

Time Off at Long Island

A newly decorated lounge for women students has been provided on the second floor of the Donnellon House at Long Island College of Medicine, Brooklyn. An official housewarming was held December 4, to which also a group of women prominent in hospital affairs in Brooklyn was invited. The guests were received by Mrs. Jean Curran, Mrs. Frederick L. Cranford, Mrs. Tracy Voorhees and Mrs. Raymond P. Sloan, who were assisted by the students who served as escorts to the new lounge. The room invites relaxation with its lounge chairs, two large windows, plenty of good lamps, a maple desk, pictures and other colorful accessories.

Utah

The students at the University of Utah School of Medicine, Salt Lake City, were addressed March 26-28 by Dr. Malcolm T. MacEachern, associate director of the American College of Surgeons, Chicago, on "Preparation for a Professional Career"; by Dr. Edward W. Alton Ochsner, New Orleans, on "Physical Diagnosis," and by Dr. Frank E. Adair, New York, on "The Cancer Problem." About one hundred applications for entrance to the first year class of the University of Utah School of Medicine for the school year 1941-1942 were received, and of these twenty-nine men and two women were accepted. Although applications were

received from all parts of the country, the students from outside Utah came mainly from the six neighboring states which have no medical schools.

Lectures at Minnesota

Dr. Arno B. Luckhardt, professor of physiology, University of Chicago, delivered the William Root Lecture, sponsored annually by the Alpha Omega Alpha medical fraternity, in the University of Minnesota Medical Amphitheater, Minneapolis, April 29, on "Dr. William Beaumont and the Medical Epoch of the Northwest Territory." A lecture was delivered at the medical school April 22 by Prof. Lucien Brouha, formerly of the University of Liège, Belgium, and now physiologist at Harvard University under the Grant Foundation. Professor Brouha discussed functions of the autonomic nervous system.

Texas

The students and faculty of the University of Texas Faculty of Medicine, Galveston, were addressed March 25 by Dr. Ernest von Brueke of Harvard Medical School, Boston, in the morning and evening on "Physiological Tendencies to Stabilize the Appearance of the Environment" and "Fatigue and Recovery in Peripheral Nerves" respectively. Dr. William R. Houston of Austin gave the annual Alpha Omega Alpha address April 8 and at the annual banquet the following junior students were initiated into this honorary fraternity: James Neal Walker, James H. Benton, Roy H. Baskin Jr., Alfred S. Froese and Louis C. Floyd. The medical school has increased its clinical material by arranging to use the charity wards of St. Mary's Hospital for ward rounds.

Lectures at Columbia

Lancelot Hogben, F.R.S., regius professor of natural history at Aberdeen University, addressed the students and faculty at Columbia University College of Physicians and Surgeons, New York, February 18, on "Medical Genetics—Methods and Problems." On Dec. 17, 1940 Henrik Dam, associate professor of biochemistry at the University of Copenhagen, addressed the students and faculty on "Vitamin K—A General Survey of Its Biochemistry and Clinical Application."

West Virginia

The student body at West Virginia University School of Medicine, Morgantown, was addressed, March 14, by Lieut. Comdr. William M. Sheppe of the U. S. Naval Reserve on "The Medical Student and the Naval Reserve." The student body and the faculty were addressed at a special seminar, March 31, by Dr. William T. Lemmon, associate professor of surgery at Jefferson Medical College of Philadelphia, on continuous spinal anesthesia in surgical operations, followed by questions from the audience. In the evening Dr. Lemmon was guest of honor at a dinner given by the Monongalia County Medical Society.

Course in Applied Medicogenetics

The Woman's Medical College of Pennsylvania, Philadelphia, is offering this year a lecture course in "Applied Medicogenetics." The lectures are given on Fridays from 5 to 6 p. m. and are open to physicians and medical students. Clyde E. Keeler, fellow of the Wistar Institute, University of Pennsylvania; Charles B. Davenport, formerly director of the Station for Experimental Evolution and director of the Eugenics Record Office; Dr. Madge T. Macklin, assistant professor

of anatomy, University of Western Ontario Medical School, and Frederick Osborn, president of the American Eugenics Society, are among the lecturers. Although a number of medical schools offer occasional lectures on this subject, this series of lectures, in continuation of a group presented last year, is believed to be the first symposium on this subject sponsored by a medical school in this country. The lectures outlined last year were printed in book form under the title "Medical Genetics and Eugenics."

Professor Hanzlik Addresses Wayne Students

The student body at Wayne University College of Medicine, Detroit, was addressed, February 22, by Dr. Paul J. Hanzlik, professor of pharmacology at Stanford University School of Medicine, San Francisco, on "The Stabilizing Power of Pharmacology." Dr. Hanzlik was introduced by one of his former students, Dr. Arnold J. Lehman, who is associate professor of pharmacology at Wayne University.

Wisconsin

The fourteenth annual William Snow Miller Lecture, sponsored by the University of Wisconsin chapter of Phi Beta Pi, was presented at Madison, March 13, by Dr. John H. Skavlem, assistant professor of medicine, University of Cincinnati College of Medicine. The topic was "Lest We Forget the Importance of William Snow Miller's Anatomical Contributions in Clinical Diseases of the Chest."—The Wisconsin chapter of Alpha Omega Alpha selected in December on the basis of scholarship and character the following new members: seniors—Leland E. Frederick, Ellen M. Sexton, Edward W. Shrigley and Harold C. Younggreen; juniors—Royden F. Collins, George C. Hank and Wallace G. Irwin.

"DO YOU KNOW WHAT PHYSICIAN"

Following are answers to the questions appearing on page 2118:

1. Dr. Jean Nicholas Corvisart, who was a great teacher and founder of modern clinical medicine in France. Corvisart's favorite pupil was Laënnec, and it has been said that his expertness in percussion stimulated Laënnec's invention of the stethoscope at the Hôpital Necker in 1816.

2. Sir Ronald Ross, of England, discovered in 1897 the Laveran plasmodia in the stomach wall of anopheles mosquitoes which had fed on the blood of malaria patients. He also proved that the spores of the parasites are concentrated in the salivary gland of the mosquito.

3. Dr. Joseph Lovell, who was also the first Surgeon General of the U. S. Army, under definitely planned legislative enactment. Dr. Lovell served through the war of 1812 and was Surgeon General of the Army from April 18, 1818 to Oct. 17, 1836, in which year he died. He was born in Massachusetts in 1788.

4. Surg. Gen. William A. Hammond, U. S. Army, established the Army Medical Museum in 1862. After the battle of Antietam, in 1862, the first curator of the museum, Dr. J. H. Brinton, was sent to Frederick, Md., and to other battlefields to collect specimens. During the World War a special unit was organized and sent to France to collect specimens for the museum. The identification of mosquitoes, flies and other insects infesting army camps was made a part of the regular work of the Army Medical Museum in October 1918. The museum is now the largest museum of human pathology in the United States. It is open to the public and is visited every year by thousands of people.

Book Notices

A Textbook of Clinical Neurology. By J. M. Nielsen, B.S., M.D., F.A.C.P., Associate Clinical Professor of Medicine (Neurology), University of Southern California, Los Angeles. Cloth. Price, \$6.50. Pp. 672, with 179 illustrations. New York & London: Paul B. Hoeber, Inc., 1941.

This textbook is written primarily for the medical student so that he can follow daily assignments in class work. The description of the various conditions are clearly and briefly done. The reading of the text is unusually easy. There are twenty-four chapters, starting with diseases of the spinal nerves. Then there follow diseases of the peripheral nerves, spinal cord, cranial nerves, brain stem, cerebellum, thalamus and vegetative nervous system. Inflammations, intoxications, tumors, epilepsy, migraine, multiple sclerosis, trauma, diseases of the muscles follow. Finally there are chapters on mental deficiency, diseases of bone affecting the nervous system, avitaminosis, electroencephalography, psychoneuroses and addiction. Vitamins and avitaminosis are discussed in a sober way. Electroencephalography is likewise properly evaluated. This is a good textbook and is recommended to the medical student.

The 1940 Year Book of Radiology. Diagnosis. Edited by Charles A. Waters, M.D., Associate in Roentgenology, Johns Hopkins University, Baltimore. Associate Editor: Whitmer B. Floror, M.D., Assistant in Roentgenology, Johns Hopkins University. Therapeutics. Edited by Ira I. Kaplan, B.Sc., M.D., Director, Radiation Therapy Department, Bellevue Hospital, New York City. Cloth. Price, \$5. Pp. 496, with 497 illustrations. Chicago: Year Book Publishers, Inc., 1940.

The 1940 Year Book of Radiology is the current issue of a series which has been published for several years. Since its first volume, the Year Book of Radiology has been recognized as a book which radiologists and other members of the medical profession who are anxious to keep abreast of radiologic progress have needed. It is now considered by many radiologists as an encyclopedia of radiologic information, since it presents a correlation of the best and latest achievements in the field of diagnostic roentgenology and radiation therapy. It is almost impossible, in so short a review, to give an adequate idea of its useful contents. Among the many practical new diagnostic procedures mentioned is a pelvic soft tissue study during pregnancy, making it possible, in certain instances, to diagnose cases of placenta praevia. A complete description of the apparatus used in fluorography is also given, with explanation of its use. This method of examination, while it may never replace roentgenograms of regular size, is of interest in mass examinations, such as are being done in the army. The section on the diagnostic use of the roentgen ray in nervous diseases, particularly benign and malignant brain tumors, reveals valuable information, the illustrations are well selected, and the whole is well worth reading.

Equally important is the portion devoted to therapy, which occupies a little more than half of the book. In this section may be found the physical technical factors and the results obtained in the treatment of cancer and other diseases amenable to radiation therapy according to modern methods as employed by leading radiologists of this and other countries. The treatment of gas gangrene, arthritis and para-arthritis, acute subacromial bursitis, the endocrine sympathetic system, amenorrhea and sterility, for example, are presented in a clear, understandable manner. Because of the manner in which the subject is presented, the radiation therapist is afforded the opportunity to obtain easily and quickly certain information regarding this form of therapy which would otherwise require some difficulty and time consuming search in arriving at similar information. It is more than a presentation of illustrated abstracts of the best current radiologic literature: it is a selection of interesting and important medical problems, calculated to have a practical use in the diagnosis and treatment of disease.

The book is replete with clear, interesting and important illustrations, printed on excellent paper. The type is clear and easy on the eye.

The editorial comments following many of the subjects constitute a valuable contribution to the book, and for all these reasons it should be in the library of every progressive radiologist.

Handbuch der Erbkrankheiten. Herausgegeben von Dr. Arthur Gütt, Staatssekretär a. D., SS-Brigadeführer. Band VI: Die erbliche Taubheit und ihre Diagnostik. Von Dr. M. Schwarz, o. Professor und Vorstand der Universitäts-Ohren- und Hals-, Nasenkl. Frankfurt a. M. Körperliche Missbildungen. Von Dr. Hellmut Eckhardt, Facharzt für Orthopädie, Geschäftsführer der Hauptabteilung II—Volksgesundheitspflege—des Reichsausschusses für Volksgesundheitsdienst und der Reichsarbeitsgemeinschaft zur Bekämpfung des Krüppeltums. Paper. Price, 24 marks. Pp. 373, with 222 illustrations. Leipzig: Georg Thieme, 1940.

This is the sixth volume of a handbook of hereditary diseases edited by Arthur Gütt, former state secretary of Germany in charge of institutions and measures for improvement of the German race and "SS-Brigadeführer." For those who have not a more intimate knowledge of present Germany it may sound somewhat strange to read in the first sentences of Gütt's preface "Life is fight. . . . Germany has been forced to fight against her will by the British and French warmongers in 1939 as well as in 1914. . . . The German people is about to build up a new Europe and to start a new world order." Those statements of the editor in the preface to a scientific book may be surprising, all the more as war is the most antieugenic event which can be thought of. The book complies with the scientific standard indicated by the preface. It represents a compilation of arbitrarily selected literature without original ideas or contributions. But worse than that, the compilation particularly of Schwarz contains many mistakes, incorrect quotations and contradictions and suppresses essential publications which are not in accordance with his theory, so that the reading of such a book is misleading rather than enlightening. Ten years ago a publication of such a book would have been severely criticized in Germany; today it seems to represent the highlights of German science. In the first part the normal and comparative anatomy, the embryology of the ear and the functional tests applied to the ear are described on the first forty-five pages. Then the hereditary deafness and deaf-mutism, the hereditary hardness of hearing by impairment of the inner ear, the hereditary atresia of the meatus, otosclerosis, the acquired varieties of deafness and, as a matter of fact, their judicial consideration from the point of view of the German sterilization law is discussed. The second part deals with bodily malformations, their nature and causes, and then the different systemic and localized malformations are discussed. The illustrations are good, as well as the printing and the paper.

Modern Drug Encyclopedia and Therapeutic Guide Presenting Descriptions of 11,114 Modern, Nonpharmacoepial, Ethical Medicinal Preparations in 15,629 Forms, Comprising: 3,421 Drugs and Chemicals, 663 Biologicals, 691 Endocrines, 2,270 Ampoule Medicaments, 3,190 Individual and Group Allergens and 879 Miscellaneous Products. By Jacob Gutman, M.D., Ph.D., F.A.C.P., Director, Brooklyn Diagnostic Institute, Brooklyn. For the Use of Physicians, Dentists, Pharmacists and Medical Students. Second edition. Fabrikoid. Price, \$7. Pp. 1,614. New York: New Modern Drugs, 1941.

This work represents an attempt to present for the physician, pharmacist or student an index of the nonpharmacoepial medicinal and other preparations which have found more or less favor in the practice of therapeutics. The therapeutic agents described therein are presented with varying details as to their composition, action and uses, how supplied and administration.

The first edition appeared in 1934 and contained descriptions of eight thousand, one hundred and sixty agents. In the foreword appeared the statements "This treatise is designed to meet the demand of the progressive physician for information concerning the most modern therapeutic agencies placed at his command by research laboratories" and "It presents without bias or comment all the popular nonpharmacoepial preparations and other remedies found useful in the treatment of disease." More than one preparation which the book described has been the subject of unfavorable reports by the Council on Pharmacy and Chemistry and the Bureau of Investigation. Some preparations have at one time or another been the subject of governmental action for being misbranded. It is doubted that the truly "progressive physician" might concede that all the described articles were modern or popular.

In 1938 a supplement to the 1934 edition was published. Now there has appeared a second edition, containing descriptions of eleven thousand, one hundred and fourteen nonpharmacoepial preparations with an increase of two hundred and fifty-one pages over the first edition. Like its predecessor, this edition is intended "for the use of physicians, dentists, pharmacists and

medical students," but, like its predecessor, the volume may be of more value as an encyclopedia than as a therapeutic guide. Because of the many proprietary preparations on the market such a book will be of value to the medical librarian, pharmacist, curious student and harassed and busy physician. But its limitations must be kept in mind by those who have occasion to scan its pages. Indications for the use of certain drugs often embrace a wider field than may be found in *New and Non-official Remedies*, *Useful Drugs* or the like. For example, the use of cinchophen is recognized in *New and Nonofficial Remedies* for acute gout, occasionally for other joint disorders and sometimes for the relief of pain in sciatica, but in Gutman's volume the indications include "gout, acute and chronic arthritis, rheumatic fever, neuralgia, neuritis, lumbosacral disease, sciatica, in iritis, episcleritis." Again, the dosage is often expressed in an unsatisfactory manner, the terms "tablets" or "teaspoonful" being used instead of grains, grams or units. Nor is the limit of the dose always in accord with the limits expressed in *New and Nonofficial Remedies*. No doubt part of these discrepancies can be explained by the statement in the foreword, "Descriptions, statements, analysis and all other data are offered without change or comment, but as found available in the numerous standard works and references consulted, or as obtained from the producers and distributors of the respective products." Some discrepancy has been found between the description of a product as presented in advertising of the producer and that contained in this book.

Regardless of its deficiencies, this work may be considered by some to have a place as a source of information on the non-pharmacoepial drugs found on the market. It is divided into parts and chapters which permit easy reference to the drug, the disease or the manufacturer. Some improvements have been made in the second edition, but it still remains more of an "encyclopedia" than a "therapeutic guide."

Bird Malaria. By Edginald Hewitt, Sc.D., Department of Protozoology, School of Hygiene and Public Health, The Johns Hopkins University, Baltimore. *The American Journal of Hygiene Monographic Series*, No. 15, July 1940. Supported by the De Lamar Fund of The Johns Hopkins University. Cloth. Price, \$1.10. Pp. 228, with 46 illustrations. Baltimore: Johns Hopkins Press, 1940.

Malarial parasites were discovered in birds only a few years after the description of malarial parasites in man by Laveran. Not only has work on them been closely related with the work on the parasites of man but they have played an amazing part in the development of knowledge regarding the transmission, pathology, immunology and therapy of the human infections. The present volume should therefore have a wide appeal to students of malaria. It is admirably conceived and excellently outlined. Following an introductory statement there are eleven chapters considering the discovery and early history of bird malaria, geographic distribution and incidence, experimental hosts and methods, species of parasites, characteristics of laboratory infections, symptomatology and pathology, immune reactions, chemotherapy, sexual cycle and mosquito transmission, the exoerythrocytic stages and suggested problems for investigation.

The exact material that should be contained in such a work is a matter of opinion, but it would seem that certain important subjects, such as immunity and exoerythrocytic stages, are superficially treated and that there should be more of a balance between the amount of published work on a given subject and the treatment by the author. Sporadic references are made to investigations on simian and human malaria. It would have been much more helpful if such references had been made more consistently and with a more critical selection of the work to be included. In the present state of confusion over exoerythrocytic schizogony the author can be pardoned for failing to evaluate some of the literature in this field, but it seems unfortunate that the discussion on *Toxoplasma* and *Toxoplasma*-like bodies should not have included a clear statement of the differences between these structures and the essentially dissimilar exoerythrocytic stages of malarial parasites. The author adopts certain usages that will probably not be generally accepted. For example, he attempts to follow Wolfson in restricting the term "periodicity" to "the degree of similarity in the length of the different asexual generations." This definition would eliminate the essential synchronism that is implied in general usage and would include a large range of vital phenomena which are not ordinarily con-

sidered periodic. The list of eighty-five questions included under chapter 11 as suggestions of problems to be solved exhibit an unusual variation in importance. Although many are thought provoking, it is unfortunate that some emphasize superficial aspects of the subject and others have been essentially answered before.

Besides matters of opinion there are a considerable number of errors. Some of these, such as the statement in table 21 that *Reichenow* showed that *Culex pipiens* is susceptible to *P. circumflexum*, will be misleading to readers using the book for reference. Throughout the discussion of immunity "humoral" is misspelled. A number of the illustrations copied from other authors are inadequately portrayed; as, for example, the halftone reproductions of certain colored plates. In spite of these shortcomings, the volume is thought provoking and will be of great value to beginning students as well as research workers in malaria. The bibliography is unusually complete.

Behandlung Innerer Krankheiten: Richtlinien und Ratschläge für Studierende und Ärzte. Von Prof. Dr. Ferdinand Hoff, Vorstand der medizinischen Poliklinik der Universität Würzburg. Paper. Price, 14 marks. Pp. 397, with one illustration. Leipzig: Georg Thieme, 1940.

This book on therapy of internal diseases is a concise discussion of the methods now practiced commonly in Germany. The author was wise to restrict himself to a description of those therapeutic agents with which he himself is familiar. He makes no claim that his survey is all inclusive. The introductory chapter contains a discussion of the general principles involved in treatment. This is followed by a description of the treatment of the more important diseases of the cardiovascular system, lungs, blood, glands of internal secretion, metabolism, digestive organs, genitourinary organs, muscles, nervous system and diseases of an infectious nature. For example, only fourteen of the common diseases of the nervous system are selected for discussion. The clinical remarks on the general characteristics of the diseases are sound and indicate that the author has had wide experience. Although it is true that many useless therapeutic measures are described, on the whole the book is more critical and contains more rational therapeutic information than do most books on treatment published in Germany. The style is clear and the arrangement logical. It can be recommended to physicians who wish to compare modern therapy in America with that in Germany.

Emotional Hygiene: The Art of Understanding. By Camilla M. Anderson, A.B., M.D., Assistant Psychiatrist, Philadelphia General Hospital, Philadelphia. Second edition. Cloth. Price, \$2. Pp. 253, with illustrations by Dorothy G. Stevenson. Philadelphia, New York, Chicago, Montreal & London: J. B. Lippincott Company, 1940.

This is a somewhat unusual book on mental hygiene. Intended primarily for nurses, it is simply written and suitable for the general reader. The writer assumes the attitude of a kindly and understanding adviser who attempts to explain the biologic bases of behavior and the nature of emotional disturbances; she offers "a guide for the perplexed." The latter part of the book is addressed specifically to nurses and reveals the author's particularly intimate knowledge of the problems of the student nurse in training. A spiritual quality based on religious feeling, a desire to offer a "philosophy of life" and a woman's outlook determine the peculiar character and atmosphere of the book. It is a good and readable general book on mental hygiene.

I. V. Stalin: Akademiya Nauk USSR sbornik trudov. [Collected Works of Ukrainian Academy of Science (Dedicated to Stalin on His Sixtieth Birthday)]. Cloth. Pp. 711, with illustrations. Kiev: Izdatelstvo Akademi Nauk USSR, 1940.

This large volume is dedicated by the Ukrainian Academy of Science to Joseph Stalin on the occasion of his sixtieth birthday. About one third of the articles are devoted to extolling the role of Stalin in continuing the work of Lenin and in encouraging the growth of sciences in Russia. The volume contains several articles dealing with the original contributions emanating from the Ukrainian Academy of Science, such as the mechanism of blood transfusion by Bogomolets, corneal transplants of Filatov and the "corticalin" discovered by Nina Medvedeva. The bulk of the articles deal with scientific investigations in fields not related to medicine or biology. The text is in the Ukrainian, the official language of the Ukrainian Socialist Soviet Republic. It would be difficult to appraise the scientific value of contributions on so wide a variety of subjects.

Queries and Minor Notes

THE ANSWERS HERE PUBLISHED HAVE BEEN PREPARED BY COMPETENT AUTHORITIES. THEY DO NOT, HOWEVER, REPRESENT THE OPINIONS OF ANY OFFICIAL BODIES UNLESS SPECIFICALLY STATED IN THE REPLY. ANONYMOUS COMMUNICATIONS AND QUERIES ON POSTAL CARDS WILL NOT BE NOTICED. EVERY LETTER MUST CONTAIN THE WRITER'S NAME AND ADDRESS, BUT THESE WILL BE OMITTED ON REQUEST.

PREVENTIVE INOCULATIONS FOR TROPICAL RESIDENCE

To the Editor:—A former patient of mine is planning to take up a contract work at the island of Trinidad in connection with the national defense bases at that point. He has asked me to advise him in the matter of the necessary types of vaccinations, inoculations and other preventive measures that might fortify him against certain tropical ailments. Would you please discuss this problem in *The Journal*?

A. G. Augustine, M.D., Napanoch, N. Y.

ANSWER.—There are no tropical disorders peculiar to Trinidad that are not encountered in other tropical areas, and the specific preventives or vaccines needed for Trinidad are those necessary for any other similar community.

A person going from a temperate climate to Trinidad should be vaccinated against typhoid, paratyphoid, smallpox and diphtheria. There are no other specific measures that have been proved valuable or necessary. Malaria is the chief disease problem of the island, but there is no vaccine for this infection. There are no prophylactic drugs which will prevent an attack of malaria following the bite of an infected mosquito. Quinine and atabrine (chinacrin) will minimize the intensity of an infection or keep it at a subclinical level, but these drugs should be taken only according to the directions of the local physician or health officer. Individuals should be advised to sleep in screened quarters or under bed nets and should avoid unnecessary exposure after dusk. There is no active yellow fever in Trinidad.

Other general measures such as the use of light clothing, boiling of water, avoiding fresh fruits and vegetables are necessary as in any tropical area and are covered completely in the chapter on tropical hygiene in the sixth edition of E. R. Stitt's *Diagnosis and Treatment of Tropical Diseases* (Philadelphia, Blakiston Company).

PROGNOSIS AFTER REMOVAL OF HYPERNEPHROID CARCINOMA

To the Editor:—A woman aged 38 had a nephrectomy about ten months ago for a hypernephroma involving the lower pole of the left kidney. At that time there was a mass about the size of an orange in the left lumbar region and there were stringy blood clots in her urine. Intravenous pyelography showed a deformed kidney pelvis and a mass attached to the lower pole of the left kidney while the right kidney was normal in all respects. At operation, under spinal anesthesia, a well encapsulated tumor was found growing from the lower pole of the left kidney. It was noted at the time that there were no evidences of metastasis in the abdomen. The pathologic diagnosis of hypernephroma was made, of the clear celled type. Since operation she has had occasional pain at the incision site but no apparent abnormality. Since operation she has been having a twice monthly urinalysis which has been persistently normal, with specific gravities ranging from 1.016 to as high as 1.028 but usually about 1.022. She has no nocturia and has never bled again since. The blood pressure has been consistently about 120 systolic and 82 diastolic, as it was before her operation. Chest roentgenograms have been repeatedly negative for any form of disease. The problems which now enter are the following: Should the patient be placed on any special diet, considering the fact that she has such good concentrating power in her residual kidney? Her ideal weight is about 135 pounds (61 Kg.). About how much should she be allowed to deviate from this? In view of the age and history of the patient would there be any great danger in her carrying a pregnancy through to term? What precautions would be necessary to make sure that she would have the best possible chance with the fewest complications? How often should there be a complete checkup, and what tests would be adequate to detect possible spread of the tumor as well as existing kidney function? Should her activities be curtailed in any way? Are there any special drugs that should be avoided in treatment?

M.D., Pennsylvania.

ANSWER.—The clinical observations as given indicate a normal remaining kidney. Such a solitary kidney carries with it an adequate reserve and is capable of carrying out all the renal excretory needs of the body. Dietary or medicinal restrictions are therefore not necessary. Likewise the body weight need not necessarily be kept within any special limits. The patient should be encouraged to lead a normal life.

Special functional tests of the remaining kidney are not urgently indicated, because the potential danger in a case like this lies not so much in a failure of the renal function as in the consequences of the malignant condition.

Following a nephrectomy for hypernephroid carcinoma, the chances for a five year cure are between 25 and 30 per cent. The fatal outcome in the remaining cases is due to metastases in the long bones, in the skull and in the lungs and occasionally to a recurrence at the original site of the neoplasm. The local recurrences are best demonstrated by palpation, and the metastases by roentgen examination. Since these tumors are notably radioresistant, the surgeon has accomplished all that is within his power when he has performed the nephrectomy.

If the patient is already pregnant there is no reason why she could not carry her pregnancy through to term. Special diet or medication is not necessary during such a pregnancy. The complication which is most to be feared in the presence of a previously healthy solitary kidney is pyelitis. The urine should therefore be examined at frequent intervals for the presence of pus cells (every two weeks at first and every week in the latter half of the pregnancy).

But further pregnancies should be discouraged because of the high ultimate mortality of patients who have been operated on for hypernephroid carcinoma.

POSITIVE SEROLOGIC TEST IN GIRL WITHOUT SYMPTOMS

To the Editor:—Two years ago a girl then 12 years old, in the course of a general physical examination, was found to have a 4 plus Wassermann reaction. In another laboratory the Meinicke, Kahn and Jacobsthal reactions were also found positive. The bloods of her twin sister, her mother, her father and four brothers were repeatedly found negative. She was nursed, the same as her twin sister, by her mother and five different wet nurses whose bloods were not tested. Therefore the possibility of contagion exists, but on the other hand both the mother and the family physician are positive that this girl at no time had any sore in the mouth, sore throat, cutaneous eruption or moist patches near the anus or genitalia that might be taken for manifestations of early syphilis. The only cutaneous diseases that she ever had, according to the mother's statement, was a mild case of measles in infancy, two or three outbreaks of urticaria of short duration and an attack of furunculosis two years ago with typical boils that have left white scars. A physical examination made today shows a girl of 14, well developed, 63 inches (160 cm.) tall, weight 110 pounds (50 Kg.), with nearly perfect teeth, not a single cavity or filling, normal shape and fairly good alignment, tonsils present but small and healthy, no adenoids, tongue, gums and mucous membranes normal, eyes, eyelids, corners of the mouth, ears, scalp and hair normal. The lymph nodes and spleen are not palpable. The tendon reflexes are normal. The skin shows only scars of boils on the neck, forearms and back, no acne nor any other abnormality present. The urine is normal. The blood is normal, except for a positive Meinicke reaction. The menstruation has been normal since the age of 12. No Wassermann test has ever been made on the spinal fluid. For the last two years she has been submitted by other physicians to intermittent treatment with arsenicals and bismuth preparations in series of about ten doses of an arsenic compound followed by ten doses of a bismuth compound and a period of rest, having had five treatments in all. On the first examination I could not ascertain the size of the doses administered. Now the question arises whether this girl should be submitted to intensive antisyphilitic treatment until the serologic reaction is reversed or not treated at all. I have been consulted by the attending physician to advise him on this point, but I am at a loss to decide. Of course my first impulse is to advise intensive treatment, but in view of the facts aforementioned are we justified in submitting a young girl to the inconvenience, dangers and expense involved by this course on the rather scanty foundation of an isolated serologic abnormality?

Julio Bianchi, M.D., Guatemala.

ANSWER.—For a patient living in the tropics, of course there is the possibility of her having had yaws, malaria, pinta or leprosy. Certainly with the first disease there would have been plenty of cutaneous evidence of it in the past. It is stated that the spleen is not palpable and that the blood is normal except for the serologic reaction. Nevertheless, it might be well to conduct a careful investigation to rule out malaria, since it is well known that there is a positive serologic reaction in a large proportion of such patients. The fact that she has had no cutaneous disease would rule out pinta. It appears that there is no evidence of leprosy.

Occasionally "false positive" serologic reactions are seen in infectious mononucleosis, in malaria and rarely in cancer and tuberculosis. In leprosy and pinta the percentage of positive reactions is high—around 80. Even with these diseases ruled out there is an occasional false positive reaction. Kahn would call them biologic reactions.

Since this young girl's physical examination is entirely negative, she should have a lumbar puncture. If it is found to be negative, one would not be greatly concerned over the situation, particularly in view of plenty of treatment in the past. The girl should be regularly checked and carefully examined every six months to one year. A conservative attitude is indicated.

A recent report by J. E. and C. F. Moore, and Harry Eagle (*Biologic False Positive Serologic Tests for Syphilis*, *THE JOURNAL*, Nov. 9, 1940, p. 1602) may be consulted.

"MINERAL SPIRIT" AND JAUNDICE

To the Editor:—Recently a white man aged 30, in previous excellent health all his life, suffered from malaise for a period of four months. No other symptom was present. Examination throughout was negative. The patient stated that he just did not feel well. A short time after his physical examination he developed a sudden acute generalized jaundice with no other symptoms. In fact he began to feel better. The patient is a cleaner, using a commercial preparation known as Kyso Mineral Spirits, manufactured by the Standard Oil Company of Kentucky. Will you inform me as to the ingredients of this preparation, especially as to liver toxicity that might occur from contact, and whether there is any record of such toxicity in others who are in contact with this material.

Benjamin L. Camp, M.D., Ellijay, Ga.

ANSWER.—Mineral spirit or white spirit is a petroleum distillate chiefly used as a turpentine substitute. It is not a precise chemical entity, and the manufacturing specifications for various companies may vary slightly as to boiling point range, flash point, color, specific gravity and the like. It is used principally as a solvent for paint and as a dry cleaning agent. Thousands of workers in this country daily are exposed to mineral spirit in scores of industries and industrial operations. From its use, industrial dermatitis is comparatively common. Acute mental states resembling alcoholic intoxication, called by workmen "naphtha jags," sometimes arise. Long continued exposure to petroleum distillates akin to mineral spirit has led to an occasional severe and intractable injury chiefly centering about damage to the central nervous system, the medullary sheaths of peripheral nerves, the heart muscles and the liver. In the chronic form of the disease, as described by Hayhurst, the principal manifestations are loss of weight, anxiety, mental depression, a tendency to stupor and disorientation, tremors, ataxia, moderately severe anemia, increased pulse rate, and diarrhea with alternate constipation. Here and there, in publications dealing with this form of intoxication, mention is made of jaundice, hepatitis and tenderness over the liver. However, jaundice as an extensive manifestation of injury has not been encountered. Extended discussions of poisoning by petroleum distillates may be found in *Industrial Medicine* 5:53 (Feb.) 1936 and in the book *Toxicity of Industrial Organic Solvents*, published by the Chemical Publishing Company of New York, page 109. According to this book two cases of intoxication, one accompanied by unconsciousness, have been attributed by the British Home Office to the use of white spirit since 1929. First was a workman painting in a confined space and the second in a dry cleaning works. The probabilities of mineral spirit causing the type of jaundice described in the query is, therefore, slight. Since this workman is a cleaner (presumably a dry cleaner), inquiry should be made as to exposure to carbon tetrachloride. Finally, consideration should be given also to the possible toxic effects of impurities, such as thioalcohol and thioether.

TRAUMA TO BACK AND POLIOMYELITIS

To the Editor:—I am interested in a case in which a laborer jumped off a wagon and claimed to have hurt his back. Two days later his attending physician noted paralysis of the left leg and urinary retention. Two days after that the patient was dead. Autopsy by competent pathologists revealed (1) that the cause of death was acute anterior poliomyelitis and (2) that there was no evidence of injury from the fall to the spinal column or the spinal cord. Can you give me any references in regard to the possible contributory factor of the trauma to the man's death?

M.D., Colorado.

ANSWER.—Stern cited 3 cases from the literature prior to 1913 in which physicians have considered trauma a possible factor in a case such as this on the theory that the injury produced a "locus minoris resistentiae" in the spinal cord.

Parker reported several cases in which he considered the possibility of trauma localizing the lesion in the particular part affected.

In this case the data are not complete. As they are given, the probability is that the pain in the back was a manifestation of the invasive stage of poliomyelitis. In this premonitory stage the muscles of the back may be spastic and motion painful. The course was no different from that in other cases of fulminating poliomyelitis. Even if one accepts the pain in the back as a symptom of injury there is no basis from the data given for assuming that the injury had any effect.

References:

- Stern, R.: *Traumatische Entstehung innerer Krankheiten* ed. 3, Jena, Gustav Fischer, 1930, p. 16.
Parker, H. L.: *Acute Anterior Poliomyelitis: The Relationship of Injury to the Localization of Paralysis*, *Irish. J. M. Sc.*, July 1937, p. 303.

INJURIES TO FEMALE GENITALIA FROM INTERCOURSE

To the Editor:—Is it possible for abrasions of the vagina and introitus to result from a vigorous, voluntary sexual intercourse with a woman who has been married over five years and who is normally built? Under what circumstances? Kindly list the injuries that may result from forced intercourse with married women.

M.D., Fairfield, Conn.

ANSWER.—Yes. Abrasions may result from hasty and traumatic entrance, from disproportion in the size of the genitalia, from violence of relationship even though not objectionable at the time of contact, or from an unusually prolonged (or repeated) sexual act. Unusually deep insertion may reactivate pelvic cellulitis as the result of cervical traumatism. Other causes to be considered are the employment of a concentrated postcoital vaginal douche as prophylaxis against conception or infection, and the introduction or activation of trichomonads or monilia.

A listing of all injuries which may result from forced intercourse is scarcely possible. Most important are (1) bruising and tearing of the external genitalia, also cutting from entrapped hairs, and (2) injury of the urethra, producing a "urethral hang" (the urethra is subject to distressing honey-moon trauma perhaps more than any other genital tissue). Serious injuries to the bladder, rectum and upper part of the genital tract are possible but unlikely.

SODIUM CITRATE AND BLOOD COAGULATION

To the Editor:—Sodium citrate solution is mixed with blood in the indirect method of blood transfusion to prevent the coagulation of blood. The statement is made on page 942 of the third edition of Sollmann's *Manual of Pharmacology* that when sodium citrate solution is injected intravenously "the coagulation time of the circulating blood is definitely shortened." I have seen similar discrepant statements in a textbook on pharmacology for nurses. If these statements are true, what is the explanation?

L. A. Crowell Jr., M.D., Lincolnton, N. C.

ANSWER.—In order to prevent coagulation of blood, about 0.25 per cent of sodium citrate must be added so as to bind the calcium; 0.1 per cent and less do not hinder coagulation. Intravenous injection of 10 to 50 cc. of 10 per cent sodium citrate, which would bring the blood concentration of patients to less than 0.01 per cent, shortens the coagulation time for several hours, probably by liberating thromboplastin from the platelets. The pertinent literature is cited in Sollmann's *Manual of Pharmacology*, fifth edition, page 919.

POLARIZED AND FLOURESCENT LIGHTING FOR LIBRARY

To the Editor:—I have been asked regarding the value of polarized light as compared to fluorescent light for reading in public libraries. Will you kindly advise regarding the availability, practicability and utility as far as the effect on the vision is concerned?

Edwin C. Braynard, M.D., Glen Cove, N. Y.

ANSWER.—Polarized light is not to be recommended for public libraries. There are better ways of avoiding poor lighting, and it is not an economical method. Fluorescent light is economical and if skillfully arranged is highly satisfactory. I suspect that the idea is to have lamps on a table or desk, with the reader facing the lamp. This is a poor arrangement. If one must have this arrangement, polarized light is probably the best for reducing specular glare. Abundant diffuse general illumination is the best.

INSULIN ADMINISTRATION AND HEPATOMEGALY

To the Editor:—In a discussion of the causes for abdominal distention in a girl with diabetes the statement appears in *The Journal* (Feb. 8, 1941, p. 550) that "in juvenile patients with severe diabetes who are maintained entirely on regular insulin (without protamine zinc insulin) it is not uncommon to have marked enlargement of the liver with abdominal distention." It seems unfortunate that the implication is made that hepatomegaly can be properly attributed to the use of unmodified insulin or that the condition may be avoided through the use of the protamine product. It would be correct to state that, in the child in whom diabetes mellitus is inadequately controlled for a long period, hepatomegaly may result. Many children with severe diabetes have been under close observation here with the use of weighed diets and unmodified insulin for many years, and not those remaining free from significant glycosuria hepatomegaly has not been encountered. Such excellence of control can be maintained through the use of unmodified insulin, if the dose and the frequency of administration are sufficient and other factors in control are observed. We have not been able to accomplish this through the use of protamine zinc insulin and feel that poor control is favored through its use. The substitution of protamine zinc insulin for the unmodified product may make the regimen simpler for the patient and for the physician, but when the resultant level of control of diabetes is lowered the substitution seems unwarranted.

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THE PROBLEM OF GASTRIC CANCER

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NEW YORK

The prodigious effort expended by the medical profession in the study of malignant diseases probably has had less effect on mortality from gastric cancer than on that from any other of the common types of carcinoma. While gratifying progress has been made in the treatment of cancer of the skin, nasopharynx, larynx, cervix uteri and the breast, cancer of the gastrointestinal tract, and most particularly of the stomach, remains a highly lethal disease. A favorable outcome in gastric cancer is so unusual that most practicing physicians have never witnessed a cure. Indeed, only those privileged to observe, over a long period of time, large numbers of patients with cancer of the stomach are in a position to know of the occasional cures. In a disease with such a dismal outlook it seems prudent to review its salient features to determine (1) whether this outlook is justified and (2) what is to be done to correct the situation.

To illustrate the problems, the experience of the New York Hospital in cancer of the stomach since September 1932 is analyzed. It is recognized that the number of patients who have passed the five year period is small, a factor which may somewhat distort the end results. It is hoped that there may be occasion to present this same material from time to time, modified by further experience with the same cases and augmented by new cases studied in the interim.

CLINICAL MATERIAL

During the seven and a third year period from September 1932 to 1940, 264 patients with proved cancer of the stomach were admitted to the medical and surgical pavilions of the New York Hospital. It is felt important to include both the medical and the surgical cases to portray a well rounded picture of the disease as it is encountered in a large general hospital. In 88 of the cases (33½ per cent) the disease was sufficiently advanced to be considered inoperable clinically. In 91 cases (34.5 per cent) an exploratory laparotomy was done, with 7 deaths occurring in the hospital after exploration, an operative mortality of 7.7 per cent. In 21 cases (7.9 per cent) a palliative gastroenterostomy was done, with 5 operative deaths, a mortality of 23.8 per cent. In 7 cases (2.7 per cent) miscellaneous procedures such as colostomy, gastrostomy or total gastrectomy were done, with 6 operative deaths (85.5 per cent). In 16 cases (6.1 per cent) a palliative

gastric resection was done in the presence of metastasis which could not be removed, with 2 operative deaths (12.5 per cent). Only 41 out of the total of 264 cases (15.5 per cent) were sufficiently early to be considered curable by surgical methods. In these a partial gastrectomy was done, with 4 operative deaths, an operative mortality of 9.8 per cent. The combined mortality for both the palliative and the curative resections was 10.5 per cent. These data are shown graphically in the accompanying chart.

RESULTS

All of the 223 patients (84.5 per cent) with cancer too advanced for hope of surgical cure were doomed to die. The average duration of life after admission to the hospital in this group is given in table 1.

The variation in the duration of life in these groups is largely explained by the extent of the gastric lesions when the patients were admitted to the hospital. Obviously, those patients with cancer sufficiently advanced to be clinically inoperable should live a shorter time than those found inoperable only by exploration. Though the duration of life after palliative resection or palliative gastroenterostomy is not strikingly prolonged, there is no question concerning the value of these procedures. Most of the palliative gastroenterostomies were performed for pyloric obstruction, and there is no doubt that some months were added to the duration of life in this group. Vastly more important than the few months of life, however, is the fact that in general this group was clinically improved by gastroenterostomy. In most instances there was a cessation of vomiting, an increase in appetite and some gain in weight. Two patients of this group enjoyed two years of practically normal life.

Clinical improvement in the group of palliative gastric resections was even more striking, though the average duration of life was not quite as great as that in the palliative gastroenterostomies. Many of these patients were able to lead essentially normal lives until a few months before death. The usual prolonged period of disability was greatly shortened, and the final period of decline was relatively rapid. So general was the improvement in the palliative resection group that this procedure usually is felt to be indicated when it is mechanically possible to remove all of the gastric tumor.

Of the 41 patients on whom curative gastric resections were performed, 15 are now dead, the average duration of life after operation being sixteen months. Only 9 patients had curative resections done five or more years ago. Of these, 4 are living and free from disease, a five year survival rate of 44.4 per cent. Of the 17 patients on whom curative resections were done three or more years ago, 10 are living and free from disease, a three year survival rate of 58.8 per cent.

These figures are sufficiently striking to warrant scrutiny. They are open to question in two ways: 1.

From the Department of Surgery of the New York Hospital and Cornell University Medical College.

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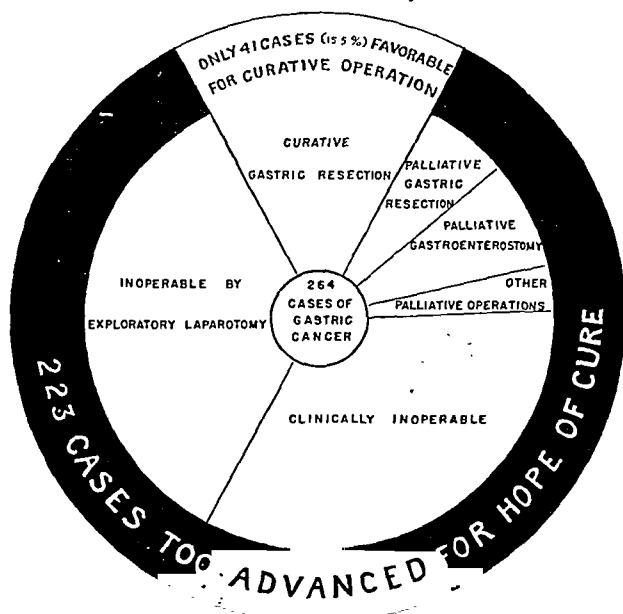
In separating the curative and palliative resections there has been some selection of cases. If the end results are calculated for all resections, the three year survival rate is 52.6 per cent and the five year survival rate 40 per cent—figures which are still unusual for cancer of the stomach. It is scarcely justifiable, however, to compromise gastric resection as a method of treatment by including in the curable group those cases of metastasis which obviously could not be removed at operation. 2. A second, more valid criticism is that the series is small. The three year survival rate, however, indicates that the five year survival rate in this series will probably remain elevated for at least two years to come.¹

The experience of the New York Hospital, therefore, indicates that operable cancer of the stomach is cured in 44.4 per cent of cases for a period of five years by gastric resection, a result comparable to that in cancer of the breast, a disease generally regarded as curable. Surely, then, the despondent outlook on gastric cancer

of treatment is so poor that cures for the group as a whole are distinctly rare. It is not to be assumed that surgery has made no progress in its attack on the disease. During the sixty years since Billroth performed the first successful partial gastrectomy, the mortality of the operation has been reduced from a formidable figure to about 10 per cent or less in the hands of competent surgeons. It is clear that this figure will be further reduced by continued concentrated effort. But this progress has been largely confined to making gastric resection a safer operation. The physician cannot rely on the surgeon to improve the outlook on gastric cancer by further refinements in surgical technic. Not until more resectable cases are seen by the surgeon will cures of this dread disease become common. It is clear, therefore, that the essence of the problem of gastric cancer is that of early diagnosis.

One should therefore examine the available methods that make diagnosis possible to determine wherein these methods contribute to the timely discovery of cancer of the stomach.

1. *The History and Physical Examination.*—The histories and physical findings presented by this group of patients were in 84.5 per cent of the cases those of inoperable gastric cancer. The typical picture with upper abdominal pain or discomfort, progressive anorexia and loss of weight, vomiting, anemia and weakness was sufficiently striking in most of the cases



Observations in 264 cases of gastric cancer.

is not justified. But this optimistic side of the picture is seen only by the surgeon who follows operable cases. The physician in general practice is likely to be more impressed by a broader picture, that these four cures represent only 5.4 per cent of the 72 patients admitted to the hospital five or more years ago, a picture that emphasizes the rarity of the cures of gastric cancer.

TREATMENT

No treatment other than the surgical treatment of gastric cancer is worthy of mention. In view of the basic pathologic condition (neoplastic infiltration of a hollow viscus) it seems likely that roentgen therapy will never furnish a rational attack on the disease. Still the record of surgical intervention as a method

1. This is not the only series in which the end results have been unusual. Pack and Livingston (End Results in the Treatment of Gastric Cancer, New York, Paul B. Hoeber, Inc., 1939, p. 127) collected about four thousand gastric resections done for cancer in which the three year survivals averaged 34.6 per cent, the five year survivals 26.8 per cent and the ten year cures, when reported, 19.66 per cent, i. e. roughly one third living at three years, one fourth living at five years and one fifth living at ten years. These averages include five year survivals of 39.5 per cent reported by Gatewood, 33.3 per cent reported by Harms and 28 per cent reported by Balfour.

TABLE 1.—Duration of Life, in Months

Not operated on.....	4.8
Exploratory laparotomy.....	6.5
Palliative gastroenterostomy.....	11.0
Palliative gastric resection.....	9.3

to be recognized by the uninitiated. If the patient seeks medical advice only after this stage has been reached, in the majority of cases he is merely delegating to his physician the unpleasant task of terminal care, a task for which the philosopher or the minister of God may be as well suited as the student of medicine. The tragic drama of inoperable gastric cancer confirms in the minds of the patient, his friends and his relatives a horror of cancer in general and further frustrates his physician. It is relatively unimportant to the patient that the clinical picture of inoperable gastric cancer be recognized. In fact, most of the clinical experience with gastric cancer is futile unless it teaches doctors how to diagnose the disease earlier.

There seems little hope that the casual, superficial history will discover gastric cancer in the operable stages. Mullen² has aptly stated that "physicians might be divided into two classes: (1) those who are eternally suspicious of gastric cancer and never find it; (2) those who are never suspicious of it and eternally miss it. The first are apt to complain of the futility of their efforts, and the second to comment on the hopelessness of the disease." Certainly care, healthy optimism and suspicion are as essential to the gastric diagnostician as are hands to the surgeon.

The early symptoms of gastric cancer can be summarized in the two indefinite terms frequently used by the layman—"dyspepsia" and "indigestion." Reduced to medical terminology these symptoms are as follows:

(a) Loss of appetite is one of the earliest and commonest symptoms. At first the patient notes that heavy

2. Mullen, T. F.: Some Factors Influencing the Curability of Cancer of the Stomach, Surg., Gynec. & Obst. 72: 298 (Feb., no. 2A) 1941.

foods he has previously eaten and enjoyed cause some upper abdominal discomfort, fullness or gas. He soon loses desire for these foods and eliminates them from his diet. In time he finds that other foods disagree with him, and he suffers from true anorexia. This frequently progresses to an abhorrence of all food—at which time the growth has usually gone too far for surgical removal.

(b) Fulness after meals often precedes by weeks or months the development of upper abdominal discomfort or pain. The appetite is satisfied more easily than usual, and the patient does not enjoy his favorite dish, which is often an indigestible concoction.

(c) The fulness disappears when less is eaten and the old favorites are eliminated from the diet but in time progresses into upper abdominal discomfort after meals, which in turn may develop into pain.

(d) Epigastric pain is not always present and in itself is more typical of ulcer than of cancer; this is particularly true if it is intermittent and responds to food and alkalis. In carcinomatous ulcers, however, pain may be present from the outset and may exactly simulate ulcer pain. Mild pain without periodicity may occur both early and late in the disease.

(e) Gas and belching are frequently associated with the symptoms listed or they may occur alone as the first symptoms of gastric cancer. If the gas tastes foul to the patient an advanced necrotic tumor is usually present.

(f) Nausea, particularly after eating, is often present early, though advanced cases have been observed in which this sensation has never been experienced. The nausea may occur alone or may be associated with vomiting.

(g) Vomiting, if persistent and severe, is more often a late than an early symptom. Occasional unexplained attacks of nausea and vomiting followed by complete relief are frequently the first symptoms of gastric cancer. The patient invariably refers such an attack to a dietary indiscretion. If the emesis contains changed blood, the disease is likely to be advanced.

The symptoms enumerated attract the attention of both the patient and the physician to a gastric disorder. However, all these symptoms may be entirely absent and the physician may have some difficulty in knowing to which system he should attribute the nonspecific symptoms that follow.

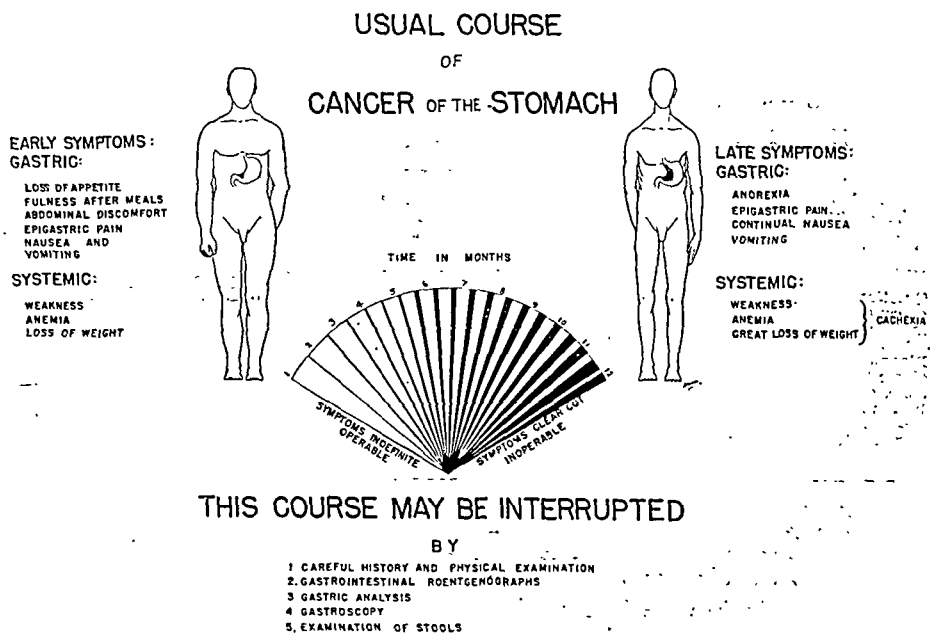
(h) Weakness, lack of vigor and strength, or of the usual sense of well-being, may be the first manifestations of gastric cancer. Though usually related to either loss of weight or anemia, they may occur alone as the earliest symptoms.

(i) Anemia, often associated with weakness and pallor, is sometimes the first sign of the disease but is more characteristic of advanced gastric cancer. The typical picture of pernicious anemia is unusual but is

seen often enough to warrant a complete investigation of the stomach before liver therapy is started. In view of the disproportionately high incidence of gastric cancer in patients with proved pernicious anemia, and of the possible relation of atrophic gastritis to cancer of the stomach, it is imperative that patients known to have either pernicious anemia or atrophy of the gastric mucosa be thoroughly reinvestigated every six months as long as they live, regardless of their response to liver or other therapy.

(j) Loss of weight, while characteristic of advanced disease, may occur alone or associated with the other nonspecific symptoms, as the first sign of the disorder. This is particularly true of patients lacking sensitivity to symptoms in general.

Abnormal physical findings are usually entirely absent in early gastric cancer. Slight epigastric tenderness or resistance may be elicited on examination; this is especially common in cancer that simulates ulcer.



Cancer of the stomach.

A fixed epigastric mass is usually advanced and inoperable, but a movable mass may be a bulky adenocarcinoma which can be resected with a fairly favorable prognosis in spite of the terminal signs of disease. Because of this type of cancer, a movable lesion should be explored before it is declared to be inoperable, regardless of its size.

Though a careful physical examination is essential, it is the history which is of greater importance in the discovery of early cancer. Only by carefully planned questioning regarding former dietary habits to contrast with the present reactions to food can the physician form a picture on which to base his diagnosis.

It is often stated that cancer does not develop in a normal stomach. This is most apparent in the 25 per cent of patients who for many years have suffered from mild gastric symptoms some or all of which simulate the early symptoms of gastric cancer. Clinical diagnosis is particularly difficult in this group, for the changes in the reactions of these patients to food may be extremely subtle.

The average duration of symptoms before the patients entered the hospital in this series was twelve and one-half months. Strangely, the duration of symptoms of the 41 patients with resectable cancer was sixteen months, three and one-half months above the average. Difficulty was encountered in attempting to place the responsibility for the delay of more than one year between the onset of symptoms and the establishment of a positive diagnosis, for the hospital records frequently omit detailed accounts of the medical experiences of patients before entering the hospital. In 88 case histories these data were recorded. As one might anticipate, analysis shows that both the patient and the private physician contributed to the delay. The average delay on the part of the patient in seeking medical aid was eight months, while the average delay on the part of the private practitioner in establishing the diagnosis was four and a half months.

A more accurate and dramatic study of the responsibility for delay in the diagnosis can be made by examining the records of the outpatient department. In spite of readily available diagnostic aids, in a number of instances there was a delay of six months or more in establishing the diagnosis. Responsibility for this delay

TABLE 2.—Reports of Roentgen Examinations

	Examination					Final Diagnosis
	1st	2d	3d	4th	5th	
Positive reading of cancer of stomach.....	70.7%	83.0%	84.7%	86.0%	86.0%	86.0%
Questionable, suspicious of cancer or repeat examination requested.....	11.8%					3.1%
Diagnosed as other pathologic condition, i. e. ulcer, gastritis, spasm, or benign lesion.....	13.1%					8.7%
Normal stomach.....	4.4%					2.2%
Total cases examined 220						

* In the group of 33 cases in which repeated roentgen examinations failed to clarify the final diagnosis, 29 patients had gastric acid studies, the results of which are shown in table 3.

is squarely on the shoulders of the outpatient department and emphasizes the inadequacies of the present attack on the disease.

It is apparent, therefore, that the history and physical examination, though primarily essential, fail to establish the diagnosis in many instances and, as applied by both the general practitioners and the physicians of the clinic, allow for a delay of one to six months in bringing the patient to surgical treatment.

Unfortunately the vagueness of the early complaints and the obscurity of the physical findings more often than not render early clinical diagnosis difficult, if not impossible. The profession, therefore, has come to rely on various special examinations to compensate for the inaccuracies of the usual clinical methods. Procrastination on the part of the physician in delaying further investigation until the symptoms become well established accounts for a good portion of the inoperable gastric cancer seen at the New York Hospital.

2. *The Roentgenographic Examination.*—Certainly the most useful of the diagnostic aids in cancer of the stomach is the roentgenographic examination. Without fluoroscopic and roentgen studies it is impossible to advise patients properly regarding their gastric complaints. But just how accurate is this examination in the diagnosis of gastric cancer, and is it to be relied on to diagnose cancer of the stomach early? The

existent impression is that the roentgenologist is extremely accurate in both the discovery and the differential diagnosis of gastric lesions. Comfort and Butsch³ found the roentgen diagnosis to be correct in 78 per cent of gastric lesions of less than 4.4 cm. in diameter, while 12 per cent of the diagnoses were equivocal and 10 per cent were wrong. In diagnosing benign gastric ulcers they were 93 per cent correct; in diagnosing malignant gastric ulcers they were 70 per cent correct. The general impression is that the roentgenologist is about 90 per cent accurate in the diagnosis of cancer of the stomach.

In critically analyzing the roentgenographic reports on my group of cases it is found that the accuracy approaches the commonly accepted 90 per cent when repeated examinations are possible. The reports of these examinations which were returned to the clinicians are shown in table 2.

It is apparent from table 2 that the roentgenologist is certain of only 70.7 per cent of the cases on the first examination but that with repeated examinations the accuracy goes up to 86 per cent. If one adds the 3.1 per cent still suggestive of cancer with repeated examinations, the accuracy is 89.1 per cent. In the last analysis only 2.2 per cent of this entire group were said to have normal stomachs; i. e., 97.8 per cent were said to have some type of pathologic lesion.

Since it is most important for the clinician to be acutely aware of the diagnostic limitations of gastric roentgenograms it is essential that he bear in mind the 30 per cent suggestive, benign or negative diagnoses returned after the first examination rather than the remarkable 97.8 per cent final accuracy in detecting disease. It is also important for the clinician to remember that this accuracy in roentgenologic diagnosis was obtained in a group of cases in which 84.5 per cent were inoperable. It is likely that the roentgen examination would be much less accurate in a group of cases with higher operability. In this series the roentgenologist diagnosed cancer in 80 per cent of the 41 resectable cases. Intelligent correlation of the clinical history with the roentgenologic report is of paramount importance in establishing a diagnosis of gastric cancer. A carefully taken history compatible with cancer of the stomach should probably never be overruled by a single negative roentgen report. Further study is usually indicated.

3. *The Gastric Analysis.*—Considerable confusion exists regarding the value of the gastric acidity as a diagnostic aid in cancer of the stomach. There is little question that much of this confusion has arisen through the use of a variety of technics and the inaccurate performance of the test. In measuring the gastric acidity it is important to remember that one wishes to know how much acid the stomach is capable of producing. To obtain a maximum response it is necessary to use histamine as a secretagogue; to measure this response it is necessary continuously to aspirate the gastric juice (and gastric juice only). Errors in the test creep in through the aspiration of bile, the swallowing of saliva and failure to aspirate continuously. Using the technic described by Bloomfield and Pollard,⁴ Holman⁵ has carefully studied the gastric acidity in

3. Comfort, M. W., and Butsch, W. L.: Differential Diagnosis of Benign and Malignant Small Lesions of Stomach, *Am. J. Surg.* 35: 515 (March) 1937.

4. Bloomfield, A. L., and Pollard, W. S.: The Diagnostic Value of Studies of Gastric Secretion, *J. A. M. A.* 92: 1508 (May 4) 1929.

5. Holman, Cranston: The Diagnosis of Gastric Carcinoma and Peptic Ulcer, *J. A. M. A.* 108: 1383 (April 24) 1937.

the New York Hospital series. He found the acid below normal or absent in 85 per cent of the cases of gastric cancer and to date has found no example of hypoacidity in gastric ulcer. In this clinic, therefore, the gastric analysis has been found a useful aid in the diagnosis of cancer of the stomach. Its chief value lies in differentiating benign and malignant lesions. Though fallible in 15 per cent of the cases, it adds confirmatory evidence in 85 per cent of cases of gastric cancer. In the absence of a gastric lesion, the diagnostic value of the gastric analysis has not yet been determined. An effort is being made to determine its value by doing the test on all patients with gastric symptoms. Diagnostic aids are so urgently needed in cancer of the stomach that a complete study should be employed in all patients suspected of having the disease.

The reduced or absent free hydrochloric acid in 19 of the 29 cases supported the diagnosis of gastric cancer, leaving but 10 cases (3.7 per cent) out of the entire series in which neither roentgen examination nor determination of the gastric acidity tended to confirm the clinical picture which made these studies necessary. On scrutiny it is found that 9 of these 10 cases were diagnosed by the roentgenologist as gastric ulcer. This simply confirms the experience of most observers that it is difficult to differentiate with certainty the benign from the malignant ulcer.

The questionable lesions that the gastric analysis fails to place in the malignant group present a real diagnostic problem. Yet this problem is simplified if one considers surgery as indicated in any gastric ulcer that fails to heal under conservative treatment. If the ulcer is chronic and has recurred repeatedly under adequate treatment over a period of years, gastric resection usually is indicated whether the lesion is benign or malignant. The recent gastric ulcer with a short history may be given a two week period of conservative care in the hospital. If the roentgenograms fail to show a marked diminution in size or if the clinical symptoms are not alleviated, resection again should be considered. It is not safe, however, to regard reduction in size or the disappearance of symptoms as proof of the benignity of a gastric lesion, for malignant ulcers have been known to disappear on the roentgenogram and the patients commonly improve clinically on bland diets. Such cases deserve continued observation until the physician is satisfied that the healing is complete and permanent. Among all others, ulcers of the prepyloric area should be regarded with the greatest suspicion.

4. *Gastroscopy*.—The most recent addition to the diagnostic armamentarium of gastric disease is the flexible gastroscope designed by Wolfe and Schindler in 1932. While statistical data regarding its value in the diagnosis of gastric cancer are lacking, there can be no question that certain tumors missed on roentgen examination are visible through the gastroscope. If this occurs with sufficient frequency, the operability of cancer of the stomach will certainly be increased. An increase will be observed, however, only if the examination is applied to a large group of patients suspected of having gastric cancer. In the diagnostic problem of gastric cancer the real need for gastroscopic examination is in those cases in which the roentgenogram fails to establish the diagnosis. Since it is apparent that roentgen examination has limitations which increase the earlier the disease is seen, gastroscopic examination will in all probability become increasingly necessary as a diagnostic aid.

5. *The Stool Examination*.—A less specific but nonetheless useful diagnostic aid is the examination of the stools for occult blood. Any oozing or ulcerating lesion of the gastrointestinal tract will, of course, give a positive reaction. Occult blood in the stools necessitates further study to determine its origin and cause and therefore can be added to the group of symptoms considered under the history and physical examination which demand a clear explanation. Though occult blood is usually present in the stools of patients with gastric cancer, unfortunately its absence does not exclude the disease, for scirrhus carcinoma may not ooze or ulcerate.

6. *The Importance of Complete and Repeated Examinations*.—Most of the delay in diagnosis in the New York Hospital outpatient department was due to a false security derived from negative reports on one or more of the diagnostic aids. In several instances, after a negative roentgenologic examination the patient was reassured and lost contact with the clinic until some months later when the symptoms were well advanced. It is of paramount importance to carry out a complete gastric investigation on every patient over 35 years of age who has symptoms compatible with early gastric cancer. Nor is it sufficient for one to complete the investigation and, finding it negative, discharge the patient as well. The proper management of such a case

TABLE 3.—Results of Studies on Gastric Acidity in Cases Not Diagnosed by Roentgen Examination

Free acid 0°.....	13 cases	} 65.5%
Free acid below 50°.....	6 cases	
Free acid above 50°.....	10 cases	34.5%

demands continuous observation until all the early symptoms have disappeared. If they do not disappear, a complete reinvestigation should be done at frequent intervals until the diagnosis, whatever it may be, is established. In this method of management lies a fertile field of endeavor against cancer of the stomach. Not until these concepts are accepted and practiced by every physician who sees patients with gastric complaints will the profession be performing its function against this dread disease.

SUMMARY

The despondent outlook generally held by physicians toward cancer of the stomach is justified only by the high proportion of failures (95 per cent) experienced in the past. Analysis clearly shows that the failure is largely due to late diagnosis. It also shows that the responsibility for the delay in diagnosis is divided among the patient (eight months), the patient's physician (four and a half months) and the general hospital (one to six months). But the profession in its fatalistic outlook based on past experience should not accept these figures as irreducible. With highly dependable diagnostic aids available there is every reason to believe that their vigorous and repeated application would reduce the professional delay to the vanishing point. With proper educational steps the patient's delay could be reduced materially. The common expression of the profession "They all die anyway" reflects an unhealthy attitude of despair which must give way to an enthusiastic and vigorous attack on the disease before real progress is possible. It is firmly believed that a complete reversal of attitude toward cancer of the stomach on the part of the medical profession is long overdue.

THE ETIOLOGIC ROLE OF CHEWING TOBACCO IN CANCER OF THE MOUTH

REPORT OF EIGHT CASES TREATED WITH RADIATION

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AND

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It is our purpose in this paper to discuss the etiologic relationship between tobacco chewing and cancer of the mouth and to report 8 cases in which irradiation was employed. The chewing of tobacco is by no means infrequent and the paucity of reports in the literature does not reflect the incidence or importance of this practice in cancer of the mouth. The eight cases included in this communication serve to illustrate the prominent features of what appears to be a clearly defined clinical entity.¹

The observation that cancer of the oral cavity is considerably higher in males than in females has aroused much speculation and has stimulated investigation of the irritating effects of tobacco, to which men are exposed in a greater degree.² A comprehensive survey of the literature led Lickint³ to conclude without reservation that the use of tobacco is a definite carcinogenic factor. Hoffman⁴ has accumulated extensive statistical data showing a causative relationship between cancer and tobacco. The role of chewing tobacco in cancer of the mouth has received some attention in various publications and in practically all of the standard textbooks. A careful survey, however, failed to disclose clearly recorded clinical data on cases in which the chewing of tobacco has been either definitely proved or strongly suspected as the etiologic factor. Abbe,⁵ who wrote an indictment of tobacco in cancer, describes his experience with 100 patients who had cancer of the mouth, all of whom were habitual users of tobacco in one form or another. In this group there were 13 tobacco chewers in whom cancer of the mouth developed at the point at which the tobacco was held. There are no clinical data. Ewing⁶ states that tobacco has a predominant influence on cancer of the buccal mucosa and that cancer often develops in the mouth of a tobacco chewer at the point at which the quid has been held. Martin and Pflueger,⁷ in a review of cancer of the cheek, included chewing tobacco in a list of chronic irritants which are considered by them to be etiologic factors. There was, however, no elaboration on this observation.

Although careful clinical studies are lacking, there have been a long series of experimental investigations on animals in which tobacco and its derivatives have been applied in an attempt to evaluate the carcinogenic properties. Brosch⁸ in 1900 was the first to produce

an atypical epithelial proliferation in guinea pigs by the application of tobacco juice. Wacker and Schmincke⁹ in 1911 produced proliferations of the epithelium of rabbit ears by the application of tobacco tar which had been obtained from pipes. The material was mixed with crude paraffin oil before application. Hoffman, Schreus and Zurhelle¹⁰ in 1923 succeeded in producing only hyperkeratosis on the skin of fowls with tobacco tar. Helwig¹¹ in 1928 found that the ethereal extracts of tobacco tar and combustion products of tobacco distilled over a temperature of 400 to 500 C. did not contain carcinogenic substances for mice. However, tobacco tar when mixed with olive oil and applied to the epithelium of rabbit ears apparently produced an atypical proliferation. No actual malignant transformation seemed to occur. Chikamatsu¹² in 1931 painted the skin of mice and the ears of rabbits with tobacco tar and found it to be inactive in mice but observed that it caused the development of "canceroid ulceration" on rabbit ears approximately two hundred and twenty-five days after treatment was instituted. Bogen and Loomis¹³ in 1932, in two series of 12 mice treated respectively with tobacco tar and gas house tar, found no epithelial proliferation with tobacco tar. In every animal treated with the mineral tar, however, definite epithelial proliferation was present. Lu¹⁴ in 1934 applied the distillate of tobacco combination to rabbit skin and was able to produce carcinoma in 3 of 4 animals. He stated that the appearance of the lesion was hastened when large amounts of cholesterol were introduced. Schürch and Winterstein¹⁵ in 1935 reported that they were able to produce carcinoma by applying tobacco tar to rabbit skin after the animals had received a cholesterol-rich diet. They were unable to evoke malignant epithelial proliferation in mice or rabbits which had received no excessive cholesterol. They postulated constitutional damage with the cholesterol-rich diet.

Roffo,¹⁶ who has carried out extensive experiments on rabbits, used several distillation products of tobacco, a watery distillate (100 to 120 C.), a thick liquid (120 to 350 C.) and the residue. The products were applied daily to the ears of three series of 20 rabbits for a period of ten months. In no animal treated with the watery distillate did a tumor develop but in 95 per cent of the rabbits treated with the thick liquid and in 70 per cent of those treated with the residue a squamous carcinoma developed. These figures would indicate that the tobacco tar contained a powerful carcinogenic substance. Roffo has stated that the carcinogenic agent present in tar is spectroscopically identical with cancer-

From the Chicago Tumor Institute.

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16. Roffo, A. H.: Durch Tabak beim Kaninchen entwickeltes Carcinom. Ztschr. f. Krebsforsch. 33: 321-332, 1931; Der Tabak als krebserzeugendes Agens, Deutsche med. Wchnschr. 63: 1267-1271 (Aug. 13); Krebserzeugende Einheit der verschiedenen Tabaktee, ibid. 65: 963-967 (June 16) 1939.

producing hydrocarbons related to the benzantracene group. This is somewhat difficult to reconcile with the observations of Kennaway,¹⁷ who has shown that the carcinogenic substances of coal tar are not found in appreciable quantities below 500 C. Recently Sugiura¹⁸ presented evidence to show that tobacco tar was only weakly carcinogenic and, in contradistinction to Roffo's claim, could produce only 1 squamous carcinoma in 168 mice and no squamous proliferation in 22 rabbits. The manner of the distillation and the manner of application were approximately the same. It is possible, however, that the divergent results may be due to the use of different strains of animals by the investigators.

The exact nature of the carcinogenic substance contained in tobacco tar is not clear, and wide discrepancies exist in the observations of various workers. It cannot be denied, however, that tobacco tar may be considered at least weakly carcinogenic.

With respect to the clinical features of the constant use of an irritant in the oral cavity, a similar picture presents itself in the case of betel or buyo¹⁹ chewing. Betel chewing is a common practice among the natives of the Orient, and a review of the recent literature discloses an unusually high incidence of cancer of the mouth where the practice is prevalent. The ingredients of the betel chew, as described by various authors, consist essentially of the betel leaf, the areca nut, lime (shell or stone) and tobacco. It became increasingly evident as more reports were surveyed that tobacco is frequently used as an ingredient in the several varieties of the betel chew and, as will be shown later, may possibly represent the most important carcinogenic factor.

Ellis,²⁰ reporting on betel chewing in Siam, quotes the results of a questionnaire which was sent to physicians scattered throughout Siam. To the query "Have your observations led you to believe that betel-nut chewing is irritating and tends toward the production of cancer of the mouth?" thirteen of the sixteen answered in the negative. However, the opinion of one of the three constituting the minority reflected a survey of the Chulalongkorn Hospital statistics, which were the most detailed and significant of all. Fells,²¹ in a two year survey of experiences in southern India, reported 377 cases of epithelial cancer, 91.5 per cent of which were in the mouth. Bentall²² reported 1,700 cases in southern India, of which 71 per cent were in the mouth. Both authors pointed out the frequency of betel chewing in India and suggested this as a possible etiologic factor. It appears to be the opinion of those who have access to reasonably accurate statistics that the practice of betel chewing is closely associated with the development of cancer of the mouth. No real attempt, however, has been made to isolate the important carcinogenic agent or agents in the betel chew.

A review by Orr²³ on the carcinogenic effect of the betel chew presents presumptive evidence that the agent

is contained in the tobacco and in its combination with lime. He points out, in a wide geographic survey, that although betel chewing is common throughout India the incidence of cancer of the mouth is much more prevalent in southern India and is common only on the southwest coast. In analyzing the important difference in the geographic distribution of oral cancer, he concluded that the difference in the carcinogenic effect of the chew was due to the use, in southern India, of cheap, irritating tobacco with shell lime (a stronger alkali than stone lime) and a prolonged retention of the quid. Difference in the vitamin content of the diets in the various regions was suggested as another possible contributing factor. On reports from the Bihar district, Orr found that the Hindus, who chew betel continuously, have a low incidence of carcinoma, but the Santals, an aboriginal tribe, who are heavy tobacco and lime chewers, using no betel or areca nut, have a high incidence of oral cancer. Maxwell,²⁴ describing his experience in



Fig. 1.—Typical microscopic structure of tobacco cancer.

Formosa, stated that he rarely saw cancer of the mouth in the locality in which he was stationed, although betel chewing was extremely prevalent. It is interesting to note, however, that in his description of the chew he significantly failed to mention the use of tobacco. Spittel²⁵ and Davidson²⁶ also pointed out the possible significance of tobacco in the betel chew. Wells,²⁷ in a report on betel chewing and its effect on the teeth, stated that in the many patients he examined he saw not a single instance of carcinoma of the mouth. In describing the betel chew he failed to mention the use of tobacco.

Since statistical data in countries in which betel chewing is common are very meager or lacking entirely, it is difficult to ascertain the exact incidence of betel cancer or to single out the ingredients in the chew which have the most important carcinogenic effects.

17. Kennaway, E. L.: Cancer-Producing Tars and Tar-Fractions, *J. Indust. Hyg.* 5: 462-488 (April) 1924.

18. Sugiura, Kanematsu: Observations on Animals Painted with Tobacco Tar, *Am. J. Cancer* 37: 41-49 (Jan.) 1940.

19. Buyo chewing in the Philippines has been described by Davis (Buyo Cheek Cancer, *J. A. M. A.* 64: 711-718 [Feb. 27] 1915) as an etiologic factor in cancer of the mouth. On careful review of this communication it is evident that the buyo chew and the betel chew are identical. Apparently the betel leaf is sometimes called the buyo leaf in the Philippine Islands.

20. Ellis, A. G.: Betelnut Chewing and Its Effects, Including Cancer of the Mouth, *Arch. Int. Med.* 25: 252-267, (Sept.) 1921.

21. Fells, A.: Cancer of the Mouth in Southern India, with an Analysis of Two Hundred and Nine Operations, *Brit. M. J.* 1: 1357-1358, 1908.

22. Bentall, W. G.: Cancer in Travancore, South India, *Brit. M. J.* 2: 1428-1431, 1908.

23. Orr, I. M.: Oral Cancer in Betel Nut Chewers in Travancore: Its Aetiology, Pathology and Treatment, *Lancet* 2: 575-580 (Sept. 9) 1933.

24. Maxwell, J. L.: Betel Chewing and Cancer, *Brit. M. J.* 1: 729 (April 19) 1924.

25. Spittel, R. L.: Betel Chewing and Cancer, *Brit. M. J.* 2: 632 (Oct. 6) 1923; 1: 158 (Jan. 26) 1924.

26. Davidson, J.: Betel Chewing and Cancer, *Brit. M. J.* 2: 733-734 (Oct. 20) 1923.

27. Wells, C. R.: Betelnut Chewing and Its Effects, *U. S. Nav. M. Bull.* 22: 437-439 (April) 1925.

The available evidence, however, points to the tobacco as being an important carcinogenic factor. This conception would fit the available data and serves to eradicate apparent discrepancies.

Eight cases of carcinoma of the mouth are presented in which a definite history of tobacco chewing has been



Fig. 2 (case 4).—Carcinoma of the inner surface of the right cheek before therapy.

elicited. This series was collected over a two year period, during which time 85 cases of various types of carcinoma of the mouth and tongue were observed. The average age of the 8 patients was 69 years—all were over 60. The practice of chewing tobacco extended over a period of fifty years on the average and the quid was chewed daily for lengths of time varying from two to ten hours. The first symptom referable to the lesion was usually soreness, and as the lesion progressed it became more painful and interfered with mastication. In these cases the points of origin correspond exactly to the areas in which the quid was held. The sites of development of the lesions were the mucous membrane of the cheek (6 cases) and the mucous membrane of the alveolar ridge (2 cases). In addition to the actual neoplasm there were widespread areas of leukoplakia surrounding the tumor and partially covering its surface; the leukoplakia was, in all probability, a precursor of the actual new growth. In this respect it is interesting to note that in two cases the usual position of the quid was changed because of developing irritation and soreness, and areas of leukoplakia subsequently appeared at the new site.

The appearance of the tumors on the inner surface of the cheek is distinctive and almost pathognomonic. All presented sharply circumscribed margins, raised several millimeters to a centimeter above the normal mucosa. The surface had a papillary verrucoid character and was covered and surrounded by patchy areas of leukoplakia. The lesions may be extensive, occupying the whole of the inner surface of the cheek from the lower to the upper alveolar margin (fig. 2). The tumors which began on the mucous membrane of the alveolar ridges had fewer distinguishing features and represented the ordinary type of ulcerating carcinoma. They were long narrow lesions extending along the alveolar margins and were associated with extensive leukoplakia (fig. 3). In most of the cases there was a moderate degree of induration along the margins of the tumors, but extensive infiltration into the submu-

cosal tissues was not present. The lesions developed slowly, 1 patient having had symptoms for eleven years and 2 others for more than three years. They were slow to invade the neighboring lymphatics, and only 1 of the 8 patients had definite metastasis to the cervical nodes. Patient 7 had an enlargement of a node in the upper portion of the anterior cervical lymph chain which was considered not to be involved by carcinoma clinically. All tumors from which a biopsy was made disclosed epidermoid carcinoma. They were well differentiated and in none of them could a considerable degree of anaplasia be demonstrated. The lesions responded well to radiation therapy and showed prompt regression. It is noted, however, that large doses were required for complete disappearance. The type of radiation therapy will be outlined with the description of the cases:

REPORT OF CASES

CASE 1.—A white man aged 64, admitted July 18, 1938, had chewed tobacco daily for twelve years. He held the quid in his mouth for periods of two to three hours at a time. The quid had always been held on the left side at a point corresponding to the site of the lesion. He had always been a heavy smoker, using cigars and a pipe for the past twenty-five years. Upper and lower plates have been worn for twenty-five years, but these did not appear to have caused him any trouble. The first symptom was soreness, which appeared one year prior to admission. The soreness became progressive and he could feel a roughened area on the inner surface of the left cheek shortly before admission. The Wassermann reaction was negative.

On the inner surface of the cheek, adjacent to the lower alveolar ridge, there was present a small oval papillary tumor which did not appear to infiltrate the submucosal tissues. The surface of the tumor was the seat of multiple projections, and areas of leukoplakia surrounded and covered portions of the lesion. Adenopathy was not noted. Histologic section disclosed papillary epidermoid carcinoma with pearl formation. Roentgen therapy was administered, the patient receiving 6,250 roentgens measured on the skin to one field. The surface area



Fig. 3 (case 4).—Appearance of inner surface of the right cheek, after therapy.

averaged about 30 sq. cm. The dose was administered in twenty-three days. The technical factors consisted of 220 kilovolt peak, 5 mm. of copper plus 1 mm. of aluminum filtration, focal skin distance 60 cm. Epithelitis and moist epidermitis was produced which healed in the usual manner. The patient is living and well with no evidence of disease.

CASE 2.—A white man aged 69, admitted Dec. 18, 1939, had been an inveterate tobacco chewer for the past fifty years

and had chewed daily for hours at a time. He used no cigarets and smoked cigars only occasionally. He had no dentures or bridgework although he was completely edentulous. It is difficult to ascertain whether he continuously held the quid on the left side of the mouth, corresponding to the site of the lesion. However, the quid was held on this side of the mouth most of the time. The first symptom was "sore mouth"

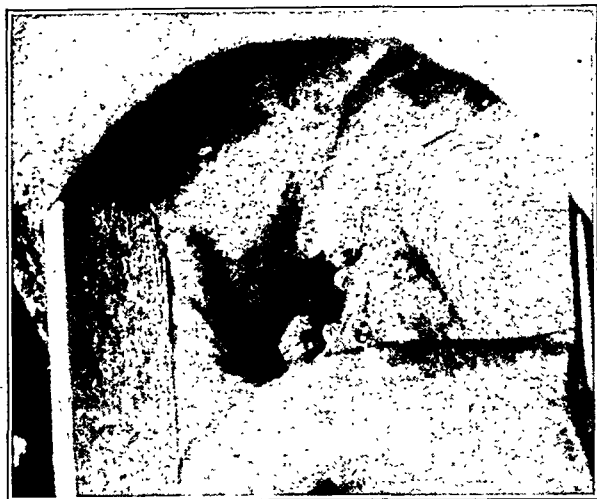


Fig. 4 (case 5).—Carcinoma of the mucous membrane of the right alveolar ridge before therapy. Note tobacco quid in apposition with the ulcerated portion of the lesion.

three years prior to admission, and at that time a physician prescribed local applications. About five months prior to admission he consulted another physician because of the progressive soreness and pain, and radium and roentgen therapy were administered. The pertinent complaints when he was first seen were referable to the masses in the neck which had developed three months previously.

Extensive leukoplakia on the mucous membrane of the left cheek with superimposed superficial ulceration was present. There was no evidence of carcinoma of the mouth but histologic sections made before treatment with radium and roentgen rays revealed definite squamous cell carcinoma. He had extensive bilateral cervical adenopathy, the largest node measuring 5 cm. in diameter on the left side and 3.5 cm. in diameter on the right side. No further therapy was deemed advisable because of the extent of the disease, and he was referred back to his physician. He died several months later with metastatic carcinoma.

CASE 3.—A white man aged 65, admitted Dec. 20, 1939, had symptoms referable to the lesion in his mouth about nine months prior to admission. The first symptom was pain, which became progressively worse. He consulted a physician several months after the onset and was treated with local applications. The lesion failed to improve and a biopsy was done. The patient had chewed tobacco daily for approximately thirty-five years. The quid had rested almost always on the side of the mouth corresponding to the site of the lesion. He had had dentures for the lower jaw for the past five or six years. He lost about 40 pounds (18 Kg.) in one year.

There was an ulcerated lesion on the left lower alveolar ridge. The ulceration was 1 cm. wide and about 4 to 5 cm. in length, extended to the anterior pillar and involved the mucous membrane of the left cheek. Patchy areas of leukoplakia were present at the edges of the lesion. Cervical adenopathy was not noted. Histologic sections demonstrated epidermoid carcinoma.

The patient received teleradium therapy with the 10 Gm. pack. He was given 156,000 milligram hours in a period of thirty-six days through an 8 cm. portal at a distance of 12.5 cm. The radium was filtered with the equivalent of 2 mm. of platinum. The lesion at first responded poorly, and imme-

diately after the teleradiation a local applicator in the form of a vulcanite mold was inserted. Three thousand milligram hours was given in five days. The radiation surface of the mold was about 14 sq. cm. The mold contained 160 mg. of radium with a filtration of 1 mm. of platinum. Following therapy extensive epithelitis developed involving the entire lesion and the surrounding mucous membrane. The skin showed only a small area of moist epidermitis. The skin and mucous membrane healed in normal fashion. One month after completion of therapy the patient was free from disease. He died three months later of coronary thrombosis with no evidence of carcinoma.

CASE 4.—A white man aged 72, admitted Jan. 12, 1940, had been chewing tobacco daily for the past sixty years. He stated that he had chewed constantly throughout the day. Until several years ago he always held the quid on the right side at the point at which the lesion developed. Recently, however, because of pain and irritation, he shifted the quid to the left side. About eleven years previously he had consulted a physician because of soreness and roughness of the buccal mucosa on the right side. At that time his teeth were removed and a small nodule of the cheek was cauterized. This never healed completely, but the lesion did not increase in size until six months prior to admission.

There was an obvious tumefaction in the right cheek and a heaped-up papillary verrucoid tumor mass occupying almost the entire mucosa of the cheek and extending anteriorly to within 1 cm. of the labial commissure was present. The lesion measured approximately 3 cm. vertically, 4 cm. in the antero-posterior direction and about 1 cm. in thickness. The lesion was covered and surrounded by patchy areas of leukoplakia. Adenopathy could not be demonstrated. Roentgenograms of the mandible and maxilla revealed no evidence of bone invasion. On the mucous membrane of the left cheek, corresponding to the new site at which the quid was held, a small patch of leukoplakia 1.5 cm. in diameter had developed. Histologic section of the tumor on the right cheek revealed epidermoid carcinoma.

The patient was treated with the 10 Gm. radium pack. He received 152,000 milligram hours through a 6 by 6 cm. portal at a distance of 12.5 cm. in a period of eighteen days. The radium was filtered with the equivalent of 2 mm. of platinum.



Fig. 5 (case 5).—Appearance after therapy.

The lesion did not completely disappear, and a nodule measuring about 1 cm. in diameter remained. Interstitial application of radium was used about three months after the teleradium therapy. He was given 1,200 milligram hours in a period of one hundred and twenty hours. Five 2 mg. needles filtered with 1 mm. of platinum were inserted underneath the remnant. The needles were arranged parallel to one another in a flat radiating surface, measuring approximately 3 by 4 cm. At the present time the patient is free of disease.

CASE 5.—A white man aged 70, admitted April 15, 1940, had chewed tobacco daily for almost sixty years. The quid had been held almost entirely on the left side for about two hours each day. The first symptom, observed three months prior to his admission, was pain, intensified by mastication. The Wassermann reaction was negative.



Fig. 6 (case 6).—Carcinoma of the inner surface of the right cheek before therapy.

There was present an extensive lesion between the alveolar ridge and the mucous membrane of the cheek on the right side, measuring approximately 7 cm. in length. The lesion was surrounded by an extensive area of leukoplakia. There was ulceration in the center and considerable induration at the edges. Involvement of the mandible was not present on roentgen examination. A specimen for biopsy was not taken. There was no cervical adenopathy.

The patient was treated with telerradium therapy. He was given 156,000 milligram hours with the 10 Gm. radium pack in eighteen days through an 8 cm. round portal at a distance of 12.5 cm. The radium was filtered with the equivalent of 2 mm. of platinum. Additional therapy was administered two weeks after completion of telerradium therapy in the form of a mold. The radiation surface of the mold was approximately 5.5 sq. cm. He received a total of 1,370 milligram hours in seven days of treatment extending over a period of nine days. The mold contained 50 mg. of radium. The radiation surface was 7 mm. from the lesion. The radium was filtered with 1 mm. of platinum. Intense epithelitis was produced, which healed normally. There is now no evidence of cancer.

CASE 6.—A white man aged 70, admitted July 2, 1940, stated that he had had an elevated area on the mucous membrane of the right cheek for the past six months. The first symptom that he observed was soreness. He consulted a physician because the lesion was becoming larger and more painful and interfered with mastication. At first the patient stated that he did not chew tobacco but on close questioning he admitted that he had chewed it for a period of thirty years, during which time he chewed daily for from five to six hours. The quid was held on the right side almost entirely. In later years, however, the quid was shifted to the left because of soreness at the original site. He stopped the practice of chewing tobacco approximately at the age of 50, but since then he has been smoking, using both a pipe and cigars. The Wassermann reaction was negative.

There was a rounded raised papillary lesion of the mucous membrane of the right cheek measuring approximately 2.5 cm. in diameter. The mucous membrane of the right cheek was covered with thin patchy areas of leukoplakia. On the inner surface of the left cheek, opposite the second molars, a round patch of leukoplakia with a slight central depression was present. (This corresponds to the new site at which the quid

was held.) There was no evidence of cervical adenopathy. Histologic section showed papillary epidermoid carcinoma.

The patient was given roentgen therapy and received 5,000 roentgens measured on the skin in a period of eleven days. Technical factors were 220 kilovolts, 60 cm. distance, portal 4 by 4 cm., filtration 2 mm. of copper plus 1 mm. of aluminum. Following radiation therapy, epithelitis of the surface of the lesion and surrounding mucous membrane developed. The skin showed only a small area of moist epidermitis which was situated approximately in the center of the treated cutaneous surface. These radiation reactions healed normally and two months after therapy was administered the lesion had completely disappeared.

CASE 7.—A white man aged 75, admitted July 30, 1940, stated that he had used chewing tobacco for the past sixty-five years almost continuously. He chewed practically all day and held the quid at a point on the left side corresponding to the site of the lesion. The first symptom developed about a year prior to admission, at which time he observed an irritation on the inner surface of the left cheek. Since then he had also had burning pain in the left side of the mouth associated with excess salivation. The Wassermann reaction was negative.

There was an irregular, ulcerated area involving the buccal mucosa anterior to the body of the mandible. The lesion measured approximately 2 by 3 cm. It was craterlike, and the edges consisted of papillary masses. The margins were firm but the lesion did not infiltrate deeply into the submucosal tissues. There was a small soft node in the upper portion of the anterior cervical lymph chain which was considered not to be involved by carcinoma. Histologic section revealed epidermoid carcinoma. The patient is under treatment with telerradium therapy at the time of this report.

CASE 8.—A white man aged 72, admitted Aug. 9, 1940, stated that he had chewed daily for periods of from four to five hours and had continued this practice for the past sixty-five years. He smoked a pipe occasionally and had worn an upper plate for about two months. Oral hygiene had been poor. The first symptoms appeared three years prior to admission, and at that time swelling of the cheek, irritation of the buccal mucosa on the right side and difficulty in mastication were present. The symptoms subsided for a time, but after this the lesion gradually became more painful. The Wassermann reaction was negative.



Fig. 7 (case 6).—Appearance of the inner surface of the right cheek after therapy.

There was a verrucoid lesion, approximately 4 by 5 cm. in diameter, occupying the greater portion of the mucosa of the cheek on the right side. The anterior portion was papillary and covered with patchy areas of leukoplakia, which also involved the mucous membrane surrounding the lesion. The leukoplakic areas extended to the alveolar margins above and below. There was no evidence of cervical adenopathy. The

Wassermann reaction was negative. Histologic section showed epidermoid carcinoma. The patient is receiving telerradium therapy at the present time.

SUMMARY

The data presented here, although subject to certain limitations because of their clinical character, support the concept that chewing tobacco is an etiologic factor in the development of cancer of the mouth. A study of tobacco chewing, a practice whereby the causative factor is applied to the mucous membrane, is perhaps the most direct method of demonstrating its etiologic relation to cancer. It is agreed by practically all observers that carcinoma of the mouth develops at the point at which the quid is held, and an analysis of the history and observations made in the 8 cases presented here amply corroborates such a view.

The literature on betel chewing reveals further evidence that the practice of chewing tobacco may be the dominant factor in the development of this type of cancer. Tobacco as a common ingredient in the betel chew has received some attention in this regard from others. It is to be noted that reports which fail to show a greater incidence of cancer of the mouth in betel chewers also fail to mention the use of tobacco in describing the preparation of the betel chew. It is unfortunate that details and statistical information on betel chewing and cancer are lacking in regions in which this is a common practice.

The lesions on the inner surface of the cheek associated with the use of chewing tobacco have a distinctive appearance. They are of a papillary verrucoid character, covered and surrounded by patchy areas of leukoplakia. Only moderate induration is present, and deep infiltration into the submucosal tissues is lacking. The leukoplakic changes are probably precursors of the actual neoplasm and represent the earliest changes. This is well illustrated in 2 subjects who transferred the quid from one side of the mouth to the other after the developing lesions became too painful. In both instances, small circumscribed patches of leukoplakia appeared at the new sites. The lesions are slow in growing and metastasize only late in the course of the disease. Histologically the tumors reveal no unusual features. They are all examples of differentiated epidermoid carcinoma.

The therapy which these patients have received has been radiation. Immediate response has been excellent, although large doses were required for complete regression. It is impossible to state the effectiveness of radiation with respect to cure, since these cases have been collected in the past two years. It is important to note, however, that all patients who completed treatment were freed of the primary lesion.

21 West Elm Street.

A Great Thrill.—To the student of medical history there is a great thrill in finding instances in which a supposedly modern invention had its origin far back in the ages. Such was the case with bimanual turning, credited to Braxton Hicks in the middle of the nineteenth century. In reality the procedure was described in detail three hundred years before by Scipio Mercurio, the Dominican monk of Padua and Venice. Mercurio quit the cloister to practice medicine in Venice in 1571, and there he published his midwife's book, in which he described his technic of version and the cesarean operation. As far as is known, he was the first to advise cesarean section on the living mother with a contracted pelvis. His writings were the outstanding contributions to obstetrics in the sixteenth and seventeenth centuries.—Findley, Palmer: *A Historical Sketch of Obstetrics*, *J. Internat. Coll. Surgeons*, April 1941.

AMINO ACIDS AS A SOURCE OF NITROGEN FOR ALLERGIC INFANTS

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It is sometimes necessary to feed infants who are allergic to milk a food containing no milk. The soy bean foods have been and will continue to be of value. Their chief disadvantage is that in some infants they cause large, loose bowel movements and irritated buttocks. While such trouble is not common if the food is cooked in a double boiler for three quarters of an hour, it would be of advantage to have an alternate food for use when necessary.

Shohl, Butler, Blackfan and MacLachlan,¹ using a synthetic protein-free food² in which amino acids prepared from hydrolyzed casein were the chief source of nitrogen, showed that for short periods nitrogen equilibrium and good gains in weight could be maintained. This is of great theoretical interest but of less practical importance unless it can be shown that such a food is adequate for nutrition over relatively long periods.

The preparation used by me was the same as that used by the authors cited. It has the following composition: amino acids 20 per cent, dextrimaltose 42.3 per cent, virgin olive oil 18 per cent, arrowroot starch 10 per cent, brewers' yeast powder 3 per cent and mineral salts 6.7 per cent.³

One level tablespoon contains 38 calories. When four level tablespoons are mixed with 6 ounces (180 cc.) of water, the mixture contains amino acids 2.8 per cent, fat 2.8 per cent, carbohydrates 8.5 per cent and minerals 0.8 per cent. The food contains no vitamin A, C or D, but adequate amounts of these were given in added quantities. The earlier lots contained none of the vitamins B, so that one-half teaspoon of brewers' yeast twice a day was given to each infant receiving the food. Later 3 per cent of yeast was incorporated directly into the food during the process of manufacture, and no additional vitamin B was given.⁴

The nitrogenous compounds contained in the preparation are not allergenic, since it was found by making intracutaneous tests that a solution of the amino acid preparation containing the same amount of nitrogen as the casein solution ordinarily used for making cutaneous tests would not give positive cutaneous reactions in infants who did react positively to casein.

In this investigation it was my chief purpose to determine whether infants would take such a food over relatively long periods and, if they did take it, whether or not it would produce adequate gains in weight. The value of a milk-free diet for certain eczematous infants has been discussed by us.⁵

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1. Shohl, A. T.; Butler, A. M.; Blackfan, K. D., and MacLachlan, E.: Nitrogen Metabolism During Administration of Amino Acids of Hydrolyzed Casein, *J. Pediat.* 15: 469-475 (Oct.) 1939.

2. Laboratory product 113 (now called Amigen Compound) was supplied by Mead Johnson & Co. Their Dr. Warren M. Cox stated that approximately 60 per cent of the nitrogen of the hydrolyzed casein used in this product is amino nitrogen and 12 per cent ring nitrogen, and the remainder probably presents higher molecular aggregates, such as polypeptides. In using the term "amino acids," I refer to the enzymic casein hydrolysate.

3. Including 3.5 per cent calcium gluconate.

4. The amount of yeast added by the manufacturer supplies approximately 12 international units of thiamine hydrochloride per level tablespoon of the powder.

5. Hill, L. W., and Stuart, H. C.: Soy Bean Food Preparation for Feeding Infants with Milk Intolerance, *J. A. M. A.* 93: 985-987 (Sept. 28) 1929.

Thirty-six eczematous infants, all under 1 year of age, most of whom gave positive cutaneous reactions to one or more of the proteins of cow's milk, were fed on the food for periods varying from two weeks to three months. The food is taken well by most infants under 1 year of age and does not often cause vomiting or diarrhea. The stools are usually two to four a day and are of thin consistency but do not cause irritated buttocks. The results on the eczema are the same as with any other milk-free food—if the eczema is caused by milk it will be greatly relieved or cured with a milk-free diet. In about one half of the patients treated in this series the eczema was apparently definitely due to milk.

In several such cases the eczema immediately recurred when milk was resumed and disappeared again when a return was made to the milk-free food. In some cases, in spite of positive intracutaneous reactions to milk, there was no improvement whatever on withdrawal of milk. This observation is not new and simply means that not all positive intracutaneous test reactions to milk are of etiologic significance. There can be no doubt, however, that many times the withdrawal of milk and the substitution of the amino acid food causes great improvement or cure of the dermatitis.

Gain in weight is irregular in many eczematous infants irrespective of what they eat, so that it is not possible to apply exact statistical methods to the recorded data. With the amino acid food there were some large gains over short periods but no large gains over long periods. However, in many cases, although the gain in weight over a period of two or three months may not have been large, it was adequate, and babies experiencing the gain were in excellent nutritional condition. As a matter of fact, it is better for eczematous babies not to gain weight rapidly during the acute stage of the eczema, and I should consider a gain which is somewhat below the average normal as satisfactory. Any estimate of the proper gain in weight is difficult as regards eczematous infants, and many of them cannot be compared to the normal, because the infants are not well. Some infants, especially those with erythroderma, will not gain well no matter what they are fed or how much of it they eat until the acute stage of the dermatitis is over, which may take several months. Furthermore, eczematous infants are subject to infections of the skin and respiratory tract which interfere with nutrition, and some wriggle and rub so actively that they use more calories than the normal baby. In several instances I discontinued the amino acid food because the gain in weight did not seem sufficient and found that there was no better gain with milk. I found that often the usual 45 or 50 calories per pound was not enough and that I have had better results with 60. Most patients took adequate amounts of the food and gained well. It has a strong taste, somewhat like strong beef tea, and some infants, although they may take it well for a few weeks, tire of it and thereafter will not take enough to gain. This is perhaps the only real disadvantage of the food.

I know of no milk-free food that has no disadvantages, and for that reason it is desirable to have more than one. The soy bean foods are not well adapted for very young babies (under 4 months) or for those with a tendency to loose stools. I fed one infant aged 7 weeks the amino acid food, and it was well tolerated. I have the impression that it is the milk-free food of choice for very young infants.

I have known of infants who have taken a soy bean food for as long as two years. I doubt that the amino

acid food would be taken for as long a period but consider it a valuable adjunct in the dietetic treatment of milk-sensitive infants.

SUMMARY

Thirty-six infants were treated; satisfactory results were obtained in 19 and unsatisfactory results in 9. The results were inconclusive in the treatment of 8 infants.

By satisfactory results, I mean that the food was taken well by the baby, improved the eczema and caused satisfactory gains in weight. By unsatisfactory results is meant that it caused either diarrhea or vomiting, was taken either poorly or not at all or caused unsatisfactory gains in weight.

CONCLUSIONS

1. It is possible to feed infants satisfactorily for periods of at least three months on a synthetic food which contains no protein except that contained in a small amount of added brewers' yeast and in which more than 60 per cent of the nitrogen is in the form of amino acids. This food has some advantages over other milk-free foods.

2. No milk-free food for infants at present available is entirely without disadvantages. It is desirable to have more than one type of food, in order to meet the individual needs of different babies.

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TRANSMISSION OF A MURINE STRAIN OF POLIOMYELITIS VIRUS TO GUINEA PIGS AND RHESUS MONKEYS

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In 1910, while studying experimental poliomyelitis in monkeys, Roemer and Joseph¹ first called attention to a presumably spontaneous flaccid paralysis which occurred among approximately 5 per cent of their normal guinea pig stock. In the following year Roemer² succeeded in transmitting this disease to normal guinea pigs by intracerebral injection of emulsions of the brains and spinal cords of spontaneously paralyzed guinea pigs. The causative agent was identified as a hitherto unknown filter-passing virus which proved glycerin resistant and could not be grown on artificial mediums. The pathologic condition in the central nervous system was described as meningomyeloencephalitis of lymphocytic nature, involving the pia mater and also the substance of the spinal cord, particularly in the lumbar levels. While stressing the dissimilar pathologic features, Roemer did not fail to emphasize the striking analogy between this paralysis of guinea pigs and Heine-Medin disease. Identification of the etiologic agent was not carried further, probably because the virus was lost in its fifth passage in guinea pigs. Since the time of Roemer's observation laboratory workers have almost universally held that guinea pigs are

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refractory to experimental inoculation with poliomyelitis virus. However, Neustaedter³ in 1913 and Picard⁴ in 1925 reported what they interpreted as spontaneous induction of poliomyelitis in certain guinea pigs in which flaccid paralysis of the extremities developed after close contact with poliomyelitis-infected monkeys. Neither investigator was able to extend his studies further, since the infectious agent proved nontransmissible in guinea pigs beyond one or two passages. To our knowledge no further records have been published of "spontaneous" flaccid paralysis in guinea pigs. It would therefore seem that the observations of Roemer, Neustaedter and Picard are unique in that all three referred to the occurrence of flaccid paralysis in guinea pigs under conditions in which the possibility of a transfer of poliomyelitis virus by natural routes of infection cannot be excluded with certainty.

In an earlier communication dealing with the adaptation of the SK strain of poliomyelitis virus from the monkey to rodents we⁵ reported the fact that the murine virus, while highly pathogenic for cotton rats and white mice, possessed no demonstrable paralyzing power in rhesus monkeys or guinea pigs; however, active virus could be recovered from such symptomless infected animals for at least ninety-six hours after intracerebral injection. These observations were based on properties of the murine virus manifested in its earlier transfers (tenth to thirtieth passage). With continued passages in mice evidence began to accumulate of a considerable increase in virulence, intracerebral potency of the murine virus for mice gradually rising from an original titer of approximately 1:1 million to activity on dilution of 1:1 billion. This phenomenon served as a stimulus to reexamination of the pathogenicity of the murine virus, beginning with the seventieth passage in mice, for rhesus monkeys and guinea pigs.

As far as its pathogenicity for rhesus monkeys is concerned, it was found that the murine virus had undergone a minor though distinct change. Whereas formerly only slight nervous disturbances of transitory character had been observed, the virus now evoked much more definite signs of activity when introduced directly into the central nervous system. Thus, of a group of 7 monkeys inoculated intracerebrally with suspensions of the brains or cords of paralyzed mice, 3 monkeys passed through a well defined encephalitic syndrome consisting of high fever, coarse tremor and tonic-clonic convulsions, followed by extreme prostration which proved fatal in 1 instance. The described symptoms, as well as the histologic examination of the monkey which died, left no doubt that the infectious agent was capable of localizing in the brain of the monkey, with the production of acute polioencephalitis. Yet in none of these animals can classic poliomyelitis be said to have developed; if this diagnosis is to be limited to a disease process that is characterized by spinal localization of the virus, with subsequent production of flaccid paralysis. Again, the essential difference in the character of the observed process was revealed by the fact that all surviving monkeys, when reinjected four weeks later with SK monkey poliomyelitis virus, were found unprotected.

With reference to its pathogenicity for guinea pigs, the murine virus presented a new and entirely different picture. Thus, beginning with the seventieth passage in mice; transfer of the virus from mouse to guinea pig could be obtained with a high percentage of takes. Of a total of 26 guinea pigs inoculated intracerebrally on different occasions with 0.1 cc. of unfiltered suspensions of the brains or cords of paralyzed mice, flaccid paralysis developed in 24, or approximately 92 per cent; of 6 guinea pigs inoculated similarly with filtered material (Berkefeld N or W candles being used as filters), 3 became paralyzed. Control injections of material from the brains of normal mice did not cause any paralytic symptoms in guinea pigs.

The following will briefly describe the symptoms and the pathologic changes caused by the disease in guinea pigs, as well as the distribution of the virus and the routes of infection. During a variable period of incubation there develops in a majority of the infected guinea pigs a preparalytic fever which drops with the onset of symptoms. When paralysis sets in it is usually complete, involving the hind legs more often than the front legs. The condition, as a rule, terminates in death, although partially paralyzed animals may go on to recovery (fig. 1). The pathologic changes in the cen-

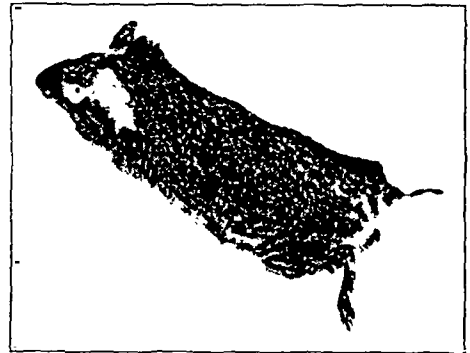


Fig. 1.—Flaccid paralysis in guinea pig four days after intracerebral injection of murine poliomyelitis virus.

tral nervous systems of paralyzed guinea pigs reveal a typical poliomyelitic process in the anterior horn of the spinal cord associated with a mild encephalitic process. Perivascular infiltration is commonly observed, as well as complete or partial necrosis of ganglion cells with advanced neuronophagia. Lesions in the white matter are rare; the meninges have a normal appearance (fig. 2). The infectious agent can be recovered from the brains or cords of paralyzed guinea pigs; it has not been found in blood or in extraneural sites. Curiously enough, it is either the brain or the cord of a paralyzed guinea pig which contains the virus in a form pathogenic for guinea pigs, but rarely can the disease be further transmitted with both tissues of the same animal. A titer of 1:20 of suspensions of the brain or the cord represents the average potency of the guinea pig virus. Initial transfer of the virus from mouse to guinea pig may be accomplished by intracerebral inoculation or by subcutaneous, intraperitoneal and intravenous injections; feeding as well as nasal instillation have produced negative or questionable results. Once the virus has been established in the guinea pig, further propagation of the disease in that animal has succeeded only by intracerebral transfer.

Neutralization tests in guinea pigs have shown that virus which has passed through guinea pigs is com-

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4. Picard, H.: Zur epidemischen Natur der Poliomyelitis anterior: Experimentelle und spontane Uebertragung auf Affen und Meerschweinchen, *Ztschr. f. Hyg. u. Infektionskr.* 105: 307, 1925.

5. Jungblut, C. W., and Sanders, Murray: Studies of a Murine Strain of Poliomyelitis Virus in Cotton Rats and White Mice, *J. Exper. Med.* 72: 407 (Oct.) 1940.

pletely inactivated by guinea pig convalescent serum, antimurine virus¹ rabbit serum and SK monkey convalescent serum; conversely, guinea pig convalescent serum has inactivated SK poliomyelitis virus in the monkey. Normal serum from monkeys or guinea pigs has uniformly failed to inactivate guinea pig virus. The serologic evidence, therefore, suggests the identity of the virus in its three hosts, i. e. monkey, mouse and guinea pig.

When passed serially through guinea pigs the virus shows a definite tendency toward deterioration. This is indicated not only by a progressive decrease in the percentage of infected animals in which manifest paralysis develops but also by a gradual lengthening of the period of incubation. Thus, in the late passages, incubation periods of from seven to twenty-one days were commonly observed, as compared with an average period of two to four days for the first transfers. This phenomenon appears to be characteristic for the virus in guinea pigs, since two attempts to maintain continuous serial passages in guinea pigs came to an abrupt

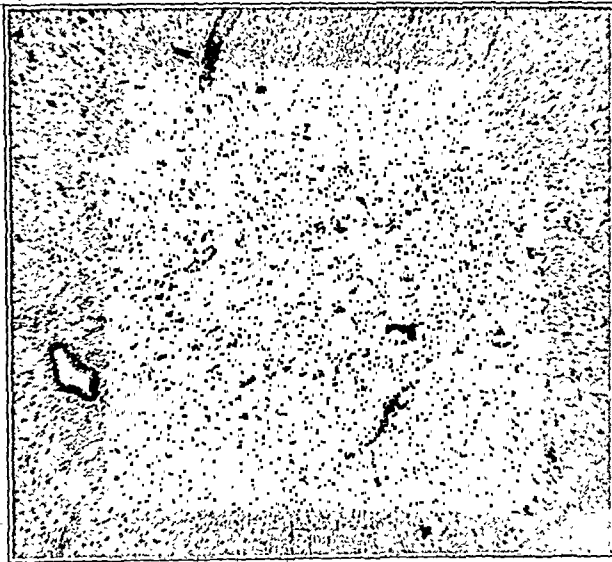


Fig. 2.—Section of cord from paralyzed guinea pig showing diffuse loss of anterior horn ganglion cells and degeneration of some of remaining nerve cells; also diffuse and perivascular infiltration by lymphocytes and increase in glial elements.

end with the sixth and seventh passages respectively. A third tree, at present, has been carried as far as the tenth generation.

Passage through guinea pigs brought about another significant modification of the virus. While active in guinea pigs, the infectious agent could be easily returned to mice and cotton rats but not to rhesus monkeys. However, when its virulence diminished for guinea pigs and mice, intracerebral inoculation of a rhesus monkey with material from the cord of a paralyzed guinea pig resulted, eight days later, in classic poliomyelitis, i. e. complete flaccid paralysis of the left leg with typical lesions on one side of the cord in the lumbar region. It would therefore seem as if some cyclic change in pathogenicity of the virus had taken place in the course of its passage from the monkey to rodents and back to the monkey.

Description of the fluctuating pathogenicity of the virus in various hosts brings us to a discussion of another property of the virus in guinea pigs, namely its power of inducing what would seem to be latent immunity. This was first noticed when guinea pigs,

which had exhibited no demonstrable paralysis after intracerebral inoculation with virus subjected to passage in guinea pigs, failed to contract the disease on reinfection with highly potent mouse virus. Thus, of a group of 29 previously infected but symptomless guinea pigs, only 13 showed paralysis on intracerebral reinoculation. A similar protection was observed in 18 out of 21 guinea pigs which had escaped paralysis following injection of mouse virus by ineffective routes when these animals were reinfected intracerebrally with mouse virus. The incidence of paralysis in these two series should be contrasted with the infectivity of the mouse virus in normal control guinea pigs, which reaches as high as 92 per cent. Attempts to recover virus from the brain and cord of guinea pigs forty-eight hours after reinfection failed to demonstrate the presence of virus in the central nervous system of "latently immune" or convalescent animals, while active virus was readily recovered from infected normal guinea pigs. In three feeding experiments, "latently immune" as well as normal guinea pigs continued to discharge active virus in their feces for a period of forty-eight hours after the oral administration of murine virus. Virus has never been recovered from the feces of intracerebrally infected guinea pigs or from the feces of normal guinea pigs. Essentially analogous observations were made with rhesus monkeys. Thus, among a group of 19 monkeys which had failed to respond with paralysis to intracerebral inoculation with virus passed through guinea pigs, 5 escaped the disease when reinfected intracerebrally with SK poliomyelitis virus; on the other hand, paralysis developed in all of 12 accompanying control monkeys.

It becomes evident, from what has been said, that there are certain similarities and dissimilarities of the SK strain of poliomyelitis virus in monkeys and rodents which presumably develop during the transition of the infectious agent from one host to another. In the first place, one is impressed by the decided neurotropism of the virus in rhesus monkeys and in guinea pigs when contrasted with its wide distribution in mice. Second, as the range of hosts widens, a gradual expansion in the avenues of infection may be observed which seems to parallel the apparent diminution of affinity to specialized tissue. To wit, rhesus monkeys are constantly susceptible only to intracerebral injection of the virus, guinea pigs may acquire the disease by intracerebral, intravenous, intraperitoneal and subcutaneous injection, whereas mice succumb to intracerebral infection as well as to infection by all peripheral routes, including feeding and nasal instillation. Since the virus in mice has possibly a broader basis of cellular attack, it is not surprising that *in vitro* cultivation succeeds with mouse virus while similar attempts with monkey or guinea pig virus have produced negative results. However, these discrepancies may be more quantitative than qualitative because the virus reaches much higher levels of potency in mice than in either monkeys or guinea pigs. It would therefore seem that, in its basic properties and manifestations, the guinea pig virus approaches the monkey and human virus more closely than does the murine virus. Indeed, the similarity of guinea pig and human virus may well be said to be even more striking than that of monkey and human virus. For while SK virus in paralyzed monkeys is restricted to the central nervous system, occurring only in the spinal cord and not in the brain, and is transmissible at will from monkey to monkey in unbroken series, guinea pig virus gives evi-

dence of definite instability which recalls the behavior of the infectious agent in man. Thus not only is the virus distributed haphazardly between the brain and the cord of paralyzed guinea pigs but transfer of nervous tissue, despite the presence of obvious lesions, often fails to induce paralysis in guinea pigs. In other words, the extent of experimental transmissibility of the virus in guinea pigs bears some resemblance to the characteristic limitations of natural chains of infection observed in the picture of human epidemics of poliomyelitis. This superficial resemblance is further accentuated by the fact that guinea pig virus, in both guinea pigs and monkeys, seems capable of reproducing a state of latent immunity which has been suspected to operate in the disease in man but heretofore has not been clearly recognized in experimental poliomyelitis in monkeys. Experience must show whether these observations will ultimately lead to a fuller appreciation of the complex biologic properties of the virus of poliomyelitis and, furthermore, to what extent such observations can be made the starting point for a better understanding of the epidemiologic problems of the disease in man.

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PSYCHIATRIC GERIATRICS

THE POSSIBILITIES IN THE TREATMENT OF MENTAL STATES OF OLD AGE

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Geriatrics is the science of the treatment of diseases of old age. In the days of straight pathologic interpretation, this branch of medicine was neglected almost entirely because of the belief that arteriosclerosis and/or senile atrophy were the sole and only causes of the presented symptoms.

Senile organic changes are both progressive and irreversible. If the changes were causing the symptoms, the only thing for the physician to do would be to control the symptoms, and the only objective of society would be to provide care and custody for those whose mental faculties have been disturbed or destroyed by these pathologic developments. These concepts have led to a pessimistic outlook, by both physicians and laymen, and to a disinterest in geriatrics as a constructive branch of therapeutics.

The most distressing developments of old age are the mental symptoms. If the mental symptoms are interpreted as straight pathologic developments they are all hopeless, and every person over 60 who acquires mental symptoms should be confined immediately to an institution and considered to be in need of custody and protection the rest of his life.

In recent years study and observation of these conditions have shown that a straight pathologic interpretation in these cases should not be made. The classic statement "A man is as old as his arteries" is, of course, still true, but "old age" and "senile dementia" are not synonymous.

For years it has been customary to divide all the psychoses roughly into "functional" and "organic." This division puts almost the entire burden of the senile psychoses on structural changes, ignoring or minimizing any other possible factor. Rhein, Winkel-

man and Patten¹ worked out a classification of the mental manifestations of old age based on a correlation of clinical symptoms and postmortem observations. However, more than 30 per cent of their cases did not fit exactly into their classification, even with their advantage of complete pathologic study. Gellerstedt² and Rothschild³ pointed out that there is no correlation between the intensity of mental symptoms and the severity of the pathologic changes. They found many severe pathologic changes in brains of patients with no history of mental symptoms. Riggs⁴ also has found this to be true.

Wartman⁵ found in 500 consecutive autopsies that 90 per cent of the men and 85 per cent of the women over 60 years of age had cerebral arteriosclerosis. These statistics confirm the concept that pathologic conditions are not the only factor. It is known that 90 per cent of the men and 85 per cent of the women over 60 are not afflicted with mental symptoms.

Rothschild⁶ pointed out the difficulty of exact diagnosis and differentiation of senile dementia and arteriosclerotic psychosis, using pathologically proved cases for his material. He pointed out also the high incidence of other types of psychotic reactions which develop in the later years of life and which do not result from irreversible pathologic changes.

Clow⁷ analyzed 100 cases of psychosis accompanying cerebral arteriosclerosis. It was pointed out that the past reactive history seemed to be important in that 61 of the patients were, in their adult years, more than ordinarily tense. Fifty of them were described as having an unusually narrow range of interest. A large proportion of them had made notably poor sexual adjustments. Thirty-three showed maladjustments ranging from frigidity to promiscuity and psychopathic behavior.

Toxic factors, such as a definitely excessive use of sedative medication, contributed to the development of the psychosis. Operations, trauma, infections and other activating incidents were noted in a number of the histories. Notwithstanding the large number of cases in which toxic and physical factors appeared to play the chief role, emotional disturbances apparently were by far the most frequent factors to upset the limited adjustment of the person with cerebral arteriosclerosis and to precipitate a psychosis.

A diagnostic breakdown showed that 34 patients had delirium as the presenting clinical picture, 19 agitated depression, 18 mental confusion, 5 depression, 5 manic-like states and 4 paranoid states. Only 14 patients presented deterioration as the most prominent feature.

Of these 100 patients 11 recovered, 12 were much improved, 31 improved, 30 did not improve and 16 died. Forty-nine patients were able to return home. Treatment consisted of psychotherapy and the applica-

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tion of principles of internal medicine. None of the patients were given any of the modern special procedures.

In my series presented here, in which every indicated method of treatment was used, i. e. psychotherapy, the principles of internal medicine, therapy by shock and

TABLE 1.—*Mental Symptoms in Fifty Patients*

Clinical Diagnosis	Number of Patients
Primary toxic delirious reaction.....	16
Agitative depressive psychosis (affective reactions).....	16
Senile dementia	11
Arteriosclerotic psychosis	3
Psychotic reactions to visceral disease.....	3
Psychoneurosis	1*
Total.....	50
Secondary toxic delirious reaction.....	10

* This series includes only 1 psychoneurotic patient. I have studied several other patients but refused to treat them for several reasons. This patient came to me recently, and the good result makes me hopeful that some help can also be given those with this type of reaction. Patients with similar conditions will receive treatment in the future.

infusions of dextrose, 66 per cent were able to return home. Palmer, Braceland and Hastings⁸ reported on a series of 123 cases of senile and arteriosclerotic psychosis. These are true mental states of old age considered by all to result from pathologic changes, yet in their series 30, or 24.4 per cent, made a social recovery, i. e. became well enough to go home.

The physician who studies this material with an open mind cannot help but conclude that the pathologic conditions alone do not cause all the symptoms. There must be some other factors. The mental states of persons over 60 who present symptoms of an abnormal mental state must be analyzed in terms of total psychiatry rather than of pathology alone.

A series of cases at the Neurological Hospital confirms this concept. Three years ago my associates and I began to study this problem constructively and treat patients with these disorders intensively by every known means. We decided that every patient was entitled to a chance and that a hopeless prognosis would not be given until every possible therapeutic aid and measure had been exhausted. Since then we have studied and treated 50 patients over 60 years of age. There are a few other patients in this age class who, for various reasons, were not treated. Furthermore, there have been a number of patients under 60 admitted to the hospital who had demonstrable arteriosclerosis and a psychosis. Only those patients over 60 who received a full course of treatment are included in this series.

Table 1 gives the clinical diagnosis of this series. The term "primary toxic delirious reaction" indicates those cases in which a delirium-like reaction developed during the course of some major or minor illness or operative procedure. "Secondary toxic delirious reaction" indicates that the delirium which resulted from malnutrition, treatment measures and similar factors developed during the course of some other type of psychotic reaction. The cases of secondary delirium are not included in the totals, as they appear under the heading of the primary type of reaction. These secondary delirious reactions all cleared under proper

treatment. "Psychotic reactions to visceral disease" has been set up as a separate entity. However, the use of this term may not be exact. The exact nature of some of the psychotic reactions to heart disease and other visceral diseases has not yet been determined.

While there is a definite pattern of the mental symptoms found in cases of cardiac disorders, no consistent etiologic factor other than the cardiac decompensation could be shown in Drewry and Wall's⁹ series of 10 carefully studied cases. They reported that of 50 consecutive patients with heart disease, 4 (8 per cent) showed the clinical picture of "cardiac delirium." Gibson¹⁰ reported an incidence of 10 per cent, while Coombs¹¹ and Romberg¹² considered the condition rare.

Michael¹³ pointed out that arteriosclerosis may be one of the causes that modify the course of a mind disordered during cardiac decompensation to the extent that prompt recovery, the rule in patients who have recovered from signs of heart failure, is delayed. Ziegler¹⁴ in his discussion of Michael's paper commented that psychoses arising from cardiac decompensation are delirious reactions or toxic psychoses.

Because of the difficulties of classification this group has been set up separately. It probably belongs in one of the classes of toxic delirium but was set apart because the primary physical disease still existed at the time of admission and was present when the patient left the hospital or died. These are cases of true organic heart disease. The tachycardias and arrhythmias of a functional or malnutritional type seen so frequently in psychotic patients are not con-

TABLE 2.—*Results of Treatment*

	Results on Discharge			
	Full Recovery	Social Remission	No Change*	Died
Syndromes with poor prognosis				
Arteriosclerotic psychosis .....	..	2	1	2
Senile dementia .....	..	..	9	..
Total.....	..	2	10	2
Syndromes with good prognosis				
Primary toxic delirious reactions	11	3	1	1
Agitative depressive psychosis...	14	2	..	..
Psychotic reactions to visceral disease .....	..	2	..	1
Psychoneurosis .....	..	1	..	..
Total.....	25	8	1	2
Total of entire series.....	25	10	11	4
Secondary toxic delirious reactions	8†	1†	1	

* Some of the patients in this discharge classification improved slightly but not enough to go home.

† All of these 8 patients had an underlying condition. These primary conditions did not all clear up, but the secondary delirium was relieved in all cases.

‡ This patient did not stay under treatment long enough. He had an arteriosclerotic psychosis, and the family was advised that there was much hope of any permanent or good recovery. He remained at home for several months before his death.

sidered to be a part of the etiology, clear up under treatment and do not belong in the visceral disease

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13. Michael, J. C.: Psychosis with Cardiac Decompensation, *Am. J. Psychiat.* 93: 1353 (May) 1937.

14. Ziegler, L. H., in discussion on Michael.¹³

group. It will be seen in table 2 that the reactions to visceral disease have the poorest prognosis.

The most striking fact in this diagnostic breakdown is the small number of cases (6 per cent) of arteriosclerotic psychosis. Muncie¹⁵ pointed out that the clinical picture of this condition is distinguished by the uneven deteriorative changes, the presence of focal signs, general and retinal arteriosclerosis and the exclusion of other factors. Only 3 of my patients had focal signs indicating an area of cerebral destruction. I feel that a severe abnormal mental reaction resulting from a single vascular occlusion is rare, because large areas of the brain must be destroyed before permanent mental symptoms develop. Surgeons now remove a whole frontal lobe of the brain without producing any demonstrable change in the personality. Both frontal lobes or large areas of the brain must be removed to produce mental symptoms. Our 3 patients had had multiple attacks of apoplexy, indicating that there had probably been widespread destruction. The term, as used here, indicates that the psychosis results directly and exclusively from the arteriosclerosis and its effects, not as Clow used the term, indicating that arteriosclerosis was definite in his 100 patients with abnormal mental reactions. The pathologic references given previously indicate that extreme arteriosclerosis alone will not cause mental symptoms. I feel that many, if not most, of the conditions diagnosed as arteriosclerotic insanity are really toxic delirious reactions.

Arteriosclerosis is a factor in the total etiology in that it affects or lowers the adjustability of the whole organism and its physiologic processes, thereby making it easier for the various types of psychosis to develop. Only rarely, and then late in its course, does it cause a psychosis by itself alone. Senile dementia, on the other hand, results from "the exaggerated or premature appearance of rather specific parenchymatous changes, but these changes are seen frequently in individuals not suffering from senile dementia, although this finding is more or less a curiosity."¹⁶ This condition was more common (22 per cent) in our cases. Senile dementia and arteriosclerotic psychosis were the only two types of reaction found in our series that resulted from changes in the brain alone and were, therefore, irreversible. Only 14, or 28 per cent, of the total series were in these groups. Theoretically then, 36, or 72 per cent, of our series fall into clinical classifications which might respond to modern psychiatric therapy.

Table 2 bears out this concept.

Thirty-five patients, or 70 per cent, of our total series recovered sufficiently to return home. These included 2 patients with an arteriosclerotic psychosis. Of the 36 patients who had conditions that should be expected to respond to active psychiatric therapy 25, or 69.4 per cent, recovered completely while 8, or 22.3 per cent, had a remission of sufficient quality to enable them to go home. This gives a percentage of 91.6 of the group with a reversible type of psychosis who were able to return home and take care of themselves rather than be confined in an "institution" for the rest of their lives. These figures certainly do not bear out the usual hopeless prognosis held for patients with mental disorders over 60.

In this series the delirious patients received daily infusions of 10 per cent dextrose as outlined by me in a previous publication.¹⁷ The patients with agitative depressive psychosis received metrazol to induce convulsive shock. One of these was 84 when treatment was given, and she remains well today, more than two years after treatment was given. None of these patients received any sedatives, nor were they given any hydro-

TABLE 3.—Six Months Follow-Up*

Condition	Same State as at Discharge	Relapse	Died from Other Causes
Primary toxic delirious reactions.....	9	..	..
Agitative depressive psychosis.....	7	..	1
Psychotic reactions to visceral disease..	1	..	..
Total.....	17	2	1

* Includes only those with whom I have been able to make contact.

therapy. The average length of time under treatment was about six weeks for those who recovered.

Table 3 shows the state six months after discharge of those patients who returned home. It is interesting to note the high percentage of sustained recoveries.

Twenty-four patients of the 33 with syndromes having a good prognosis who made a social remission or better have been home six months or more. I was able to establish contact with 20 of these patients six months after discharge. Seventeen of them, or 85 per cent, had maintained their good condition, showing that the therapeutic measures applied corrected or "cured" the psychosis and did not just give a "boost" or temporary mobilization of faculties. These sustained recoveries could not be expected if pathologic changes were responsible for the symptoms presented at the time of original contact.

CONCLUSIONS

1. Pathologic changes of a destructive or deteriorative type were solely responsible for the symptoms in only 14, or 28 per cent, of this series of 50 patients over 60 years of age with abnormal mental reactions. Thirty-six patients, or 72 per cent, had types of mental illness that respond to modern therapy.

2. Of the 36 patients with a good prognosis, 33, or 91.6 per cent, recovered sufficiently to go home in an average length of time under treatment of six weeks.

3. Of the 33 patients who recovered, 24 have been discharged six months or more and only 2 have had a relapse; 1 died. Seventeen, or 85 per cent, of the 20 with whom I was able to maintain contact remained well at the end of six months.

4. Senile dementia and arteriosclerotic psychosis, the usual diagnosis for abnormal mental states in persons over 60, are not the common mental disorders of older people. The common disorders, such as toxic delirious reactions and affective reactions, usually an agitative depressive psychosis, may be corrected readily.

5. Psychiatric geriatrics is a fertile field for investigation and study from a constructive standpoint, and the results to be expected are as good as in the treatment of younger patients with mental disorders.

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CONTROL OF TUBERCULOSIS IN WISCONSIN

THE RESULTS OF FOUR YEARS OF MASS STUDY
IN SANITARY DISTRICT NO. 5, 1936 TO 1939

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The Wisconsin State Board of Health has sponsored programs of testing with tuberculin and roentgen examination in the school population as a case finding study and also as an educational program in an effort to make the public tuberculosis conscious. Although the programs were centered about the school population, the adults and children of preschool age also participated. The physicians and public health nurses in the various counties encouraged the "contacts" and suspected families to take the Mantoux test. This paper presents only the work carried out over a four year period, 1936 to 1939 inclusive, in Sanitary District no. 5 (fig. 1); the other districts carried on the same type of program.

The total area of the district is 7,054 square miles and is located in west central Wisconsin. The area is primarily devoted to dairying and farming, although the eastern part of the district has some of the largest paper mills in the state. The total population of the area is 240,000, of which there is an urban population (cities over 2,500) of only 55,000. The district is inhabited predominantly by German, Norwegian and Polish people, and less than 1 per cent of the population is Indian. The Indian population was not included in this four year study. There are approximately one hundred and eighty physicians in the district and twenty-two public health nurses. Two sanatoriums are located in the eastern part of the district.

A general plan was followed in which programs of mass testing with tuberculin and roentgen examinations were carried out. Usually the county boards appropriated the funds for tuberculin tests and roentgen examinations of the positive reactors, although in some counties local townships, the persons themselves or organizations supplied the funds. During the four year study, the various county boards in the district appropriated \$23,916 for case finding in the control of tuberculosis. The county health committee, through the district health officer and county nurse, handled the publicity and obtained the signed request cards which authorize the physician to give the test. Radio talks were given, newspaper articles written, posters displayed and various groups addressed on the subject of tuberculin testing. The plans and policies were determined by the public relations committee of the individual county medical society or a special tuberculin testing committee appointed by the society. It was significant that the longer the publicity was maintained, the higher was the number of request cards returned by the parents or guardians giving the physician permission to test with tuberculin. No program was instituted in any county unless at least 75 per cent of the school population had signed to take the test. Practically all the physicians in the district participated in the testing program, and those who had adequate roentgen ray facilities took roentgenograms of the chests

of the positive reactors. All the roentgenograms were examined by members of the Wisconsin Anti-Tuberculosis Association or by other qualified roentgenologists. Roentgenograms with poor contrast were retaken. Old tuberculin in the dilution of 1 to 1,000, prepared by the state laboratory of hygiene, was used exclusively.

The accompanying table summarizes the results of the program carried out in Sanitary District no. 5. The persons who were given the tuberculin tests and roentgen examinations were divided into five groups according to age. The table shows that of the 36,022 persons who received the Mantoux test 3,991 reacted

Totals and Results of Testing with Tuberculin and Roentgen Examination in Sanitary District No. 5, 1936 to 1939

	Preschool Children (1 Through 5 Years)	Grade School Children (6 Through 14 Years)	High School Students	Normal School Students	Adults	Totals
Number of Mantoux tests given from 1936 to 1939, inclusive	505	23,418	10,049	144	1,906	36,022
Number of positive reactors to Mantoux test, 1936-1939, inclusive	56	1,611	1,538	24	762	3,991
Total number of roentgenograms taken	80	1,645	1,072	19	1,001	4,074
Number having more than one roentgenogram, as a result of the rotating program, or as a result of suspicion of tuberculosis	15	108	120	2	79	414
Number of cases of active tuberculosis	0	8	6	0	54	68
Number of cases of suspected active tuberculosis	6	47	25	1	85	164
Number of roentgenograms showing primary tuberculous infection	12	559	264	4	353	1,222
Number of roentgenograms showing probable or possible tuberculous infection or negative.....	32	950	568	0	458	2,297
Number of roentgenograms showing pathologic lesions other than tuberculosis	3	139	49	0	274	465

The number 4,074 refers to the total number of roentgenograms taken. Some of these patients (414) required one, two or even three roentgenograms over a period of six months to a year before a diagnosis of active tuberculosis was made. The figures 80, 1,645, 1,072, 19 and 1,001 reading across refer only to individual patients.

positively and 32,031 negatively. There were 4,074 roentgenograms taken of the chests of the positive reactors; 414 persons had one or more roentgenograms taken because of suggestive conditions in the chest. It was found that 68 persons had active tuberculosis, and 164 were considered as having evidence suggesting active tuberculosis; consequently there were 232 cases of active or of suspected active tuberculosis discovered which had previously been unknown in the community. There were 1,222 persons who showed roentgen evidence of a healed primary complex. There were 2,297 persons who were considered as having a probable or a possible tuberculous infection and were classified as having negative roentgenograms of the chest.

It is interesting to note that through the 4,074 roentgenograms which were taken because the person examined was a positive reactor there were 465 persons found to have other pathologic abnormalities of which

Dr. R. S. Baldwin, of the Marshfield Clinic, gave suggestions and criticism, and Mr. Harold Holand and the staff of the Wisconsin Anti-Tuberculosis Association prepared the charts and other material.

they, at the time, were not cognizant, for instance: One hundred and eighty-four patients had evidence of pleurisy; 150 had evidence of cardiac disorders; 75 had either acute or chronic bronchitis; 24 had suggestive bronchiectasis; 8 had evidence of pneumonia; 5 had tuberculous cervical glands; 3 had carcinoma of

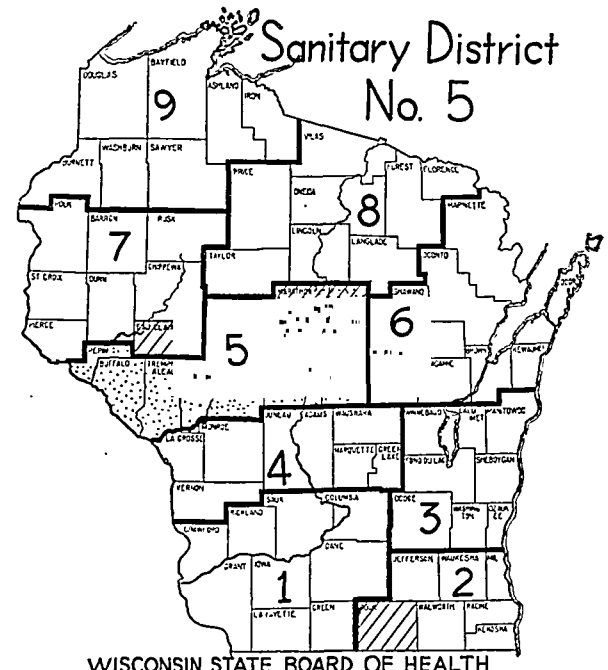


Fig. 1.—Location of district health units.

the lung; 1 had a pulmonic abscess, and 1 had Hodgkin's disease. Some of these patients have since died. It is evident that to take roentgenograms of the chest annually is good preventive medicine, from the amount of nontuberculous, thoracic disorders that was discovered.

Figure 2 presents graphically the number of persons tested in each age group. The grade school and high school students received the majority of tuberculin tests. This, of course, is to be expected, since the program was originally outlined with special emphasis on the school population. The grade school group received more than twice the number of tuberculin tests as compared to the high school group of students.

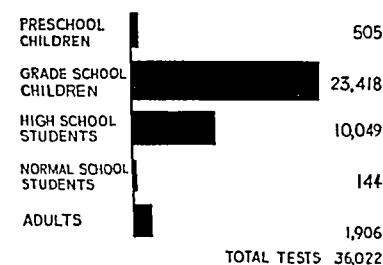


Fig. 2.—Tuberculin tests given, 1936-1939 inclusive.

adult and preschool groups represent only 7 per cent of the 36,022 who received tuberculin tests.

Figure 3 shows the percentage of positive reactors in the district and among each age group. For the entire district, only 11 per cent of those tested were positive reactors whereas in the state at large they average from 14 to 16 per cent. There were twice as many positive reactors discovered among the high

school students as among the grade school students. The higher incidence of positive reactors in the preschool and adult groups is explained by the fact that the public health nurses and physicians exerted special efforts to bring in contacts and groups in which tuberculosis was known to have occurred at some time in the past or to exist at present. Although the adult and preschool groups represent only 7 per cent of those receiving tuberculin tests, they revealed the highest percentage of positive reactors.

Figure 4 shows graphically the incidence of cases of active tuberculosis in the district for each of the age groups tested and compares this with the normal expectancy for the state. This "normal expectancy" is based on the Framingham ratio for estimating cases (nine times the annual number of deaths from tuberculosis). A normal expectancy of 1 case of active tuberculosis is derived for every 336 persons in the general population. Thus, with an average estimate of 9,033 cases of active tuberculosis in Wisconsin during the period 1936-1939 and an estimated state population of 3,032,174, there would be 1 case of active disease

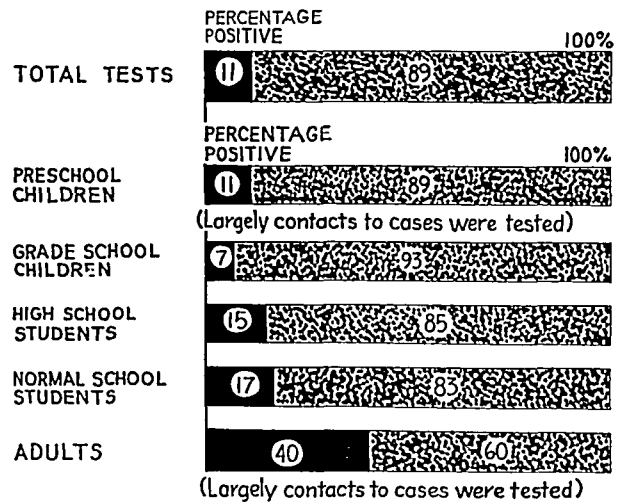


Fig. 3.—Percentage of positive reactors to tuberculin tests (Mantoux), 1936-1939 inclusive.

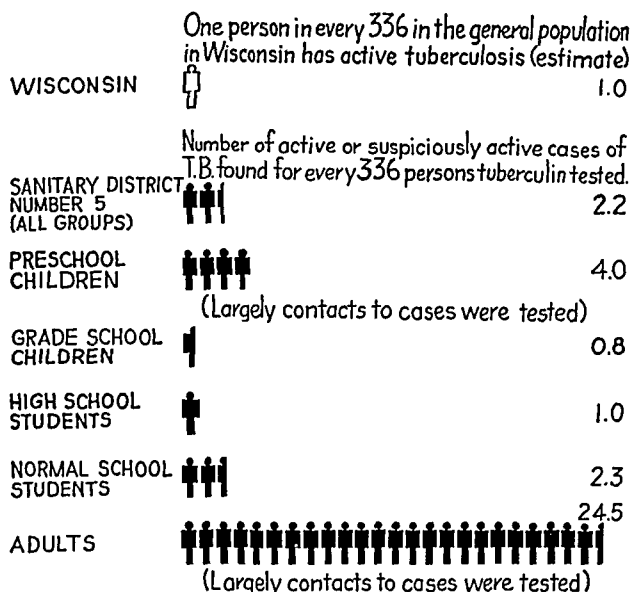
for every 336 persons in the state ($\frac{3,032,174}{9,033} = 336$). Statistically, persons given a tuberculin test in the district are compared with this normal expectancy, giving the "case finding productivity" for each group tested. Thus, among adults tested with tuberculin, twenty-four and a half times as many cases of active and suspectedly active tuberculosis were found as would be expected in an unselected population. With adults tested, there was some selection of persons for the tuberculin test on the basis of contact or symptoms. Less than 1 case per 336 persons tested was found among grade school children, which is less than the normal expectancy for the general population. Only among high school students were as many cases found as one would expect to find in an unselected population in Wisconsin. The high total of four times the normal expectancy for preschool children is partly explained by a selection of children for the tuberculin test who were known to have been in contact with infectious tuberculosis.

These statistics on cases found show that it is among the contacts that the largest number of cases of active tuberculosis are to be discovered. Every case comes from another; every case may lead to another.

COMMENT

A great deal has been written about the tuberculin test, its value, its limitations,¹ its potential dangers² and its use in case finding.³ This study definitely demonstrates that mass testing with tuberculin as a screening measure and case finding procedure is of economic and of educational value but requires modification in rotating programs, limiting it to selected groups, as in younger children and in adults, and to places in which the incidence of infectious tuberculosis is highest. It is also a valuable procedure in determining the incidence of tuberculosis in the community.

Although there were 32,031 negative reactors discovered, it is known that many of these may react negatively today and positively tomorrow.⁴ The negative reactors cannot be forgotten, and all the attention should not be focused on the positive reactors. Occasionally cases are encountered in which the



Compare the **BLACK** figures with the normal **OUTLINE** figure.

The black figures show how effective the case-finding program in District 5 was for each group tested.

Fig. 4.—Cases found for groups tested with tuberculin, 1936-1939 inclusive.

evidence of tuberculosis exists but the reaction to tuberculin is negative.¹ I found a number of such cases. One cannot prove that all persons who react negatively to the tuberculin test have escaped earlier infection, since there is evidence that cutaneous hypersensitiveness may wane or disappear.⁵ Howe⁶ has shown that there may be considerable daily fluctuations in cutaneous sensitiveness to tuberculin. Many studies indicate that more tuberculosis develops among those who react negatively to tuberculin on exposure than those who react positively.

More than 90 per cent of all the positive reactors have had one or more roentgenograms made. Those

whose roentgenograms had a suggestive appearance may have had new ones every month or every three to six months. It is important to remember that one of the most difficult parts of the program was to get roentgenograms of the positive reactors. What about the group of patients who had a positive reaction to tuberculin with a normal roentgenogram of the chest? The tendency is to say that they are healthy and that no special care is needed, but there are patients of this type on record who died of tuberculosis within two and one-half years. Ch'iu, Myers and Stewart⁸ in a ten year follow-up examination of children, of whom 446 were positive reactors and 772 were negative reactors, found that 15.02 per cent of the positive reactors were sick with a reinfection type of tuberculosis as compared to 1.68 of the negative reactors. Thus there were 9 cases of tuberculosis among the positive reactors to 1 among the negative reactors. The ratio between the mortality for the positive reactors and that for the negative reactors is 38 to 1. Pope and his associates⁹ found that the morbidity from adult type tuberculosis was four times as great among the positive reactors as among the negative reactors. If nothing is done about these positive reactors possibly 15 per cent of them will eventually incur active tuberculosis for which institutional care is needed.

It is noteworthy that the majority of the persons who had definite roentgen evidence of primary tuberculous infection exhibited no external sign of tuberculosis and, as a matter of fact, would not have known that they had the primary complex had they not taken the tuberculin test. The course of the disease in adults is apparently the same as in infants and children—active treatment is not necessary, but all must be looked on as potential cases of reinfection type of tuberculosis at some future date.¹⁰ It is significant that in those areas in which infection in childhood is most common the highest mortality is found in adult life; in areas such as Cattaraugus County, N. Y., in which a majority of the adolescents are demonstrably tuberculin negative, the mortality in adult life is low.¹¹

It has been estimated¹² that there are more than 500 patients with active tuberculosis in the district, of whom less than 50 per cent have been hospitalized. This presents a specific problem in the district. As a direct result of this program, 232 cases of active or suspectedly active tuberculosis were discovered which had previously been unknown in the community. No incorrigible person with infectious tuberculosis should be permitted to be at large. The patient with infectious tuberculosis must be segregated, and the education of the population in the prevention, early discovery, communicability and prevalence of tuberculosis must continue. More widespread emphasis should be placed on the prevention of the transmission of infection, and more general use of roentgenograms, especially in cases of suspected and doubtful tuberculosis, is necessary if more minimal tuberculosis is to be discovered. The preclinical case must be detected. It is essential to

7. Novak, J. B., and Kruglick, J. S.: End Result of a Tuberculosis Case-Finding Project, J. A. M. A. **112**: 1452-1454 (April 15) 1939.

8. Ch'iu, P. T. Y.; Myers, J. A., and Stewart, C. A.: The Fate of Children with Primary Tuberculosis, J. A. M. A. **112**: 1306-1308 (April 8) 1939.

9. Pope, A. S.; Sartwell, P. E., and Zacks, David: Development of Tuberculosis in Infected Children, Am. J. Pub. Health **29**: 1318-1325 (Dec.) 1939.

10. Myers, J. A.; Ch'iu, P. T. Y., and Streukens, T. L., Jr.: Primary Infection in Adults, Am. Rev. Tuberc. **39**: 232-235 (Feb.) 1939.

11. Frost, W. H.: How Much Control of Tuberculosis? Am. J. Pub. Health **27**: 759-766 (Aug.) 1937.

12. Holand, Harold, Statistician, Wisconsin Anti-Tuberculosis Association: Personal communication to the author.

1. Long, E. R.: The Tuberculin Test: Its Value and Limitations, Am. Rev. Tuberc. **40**: 607-620 (Dec.) 1939.

2. Lincoln, Edith M., and Grethmann, Wolfgang: The Potential Dangers of the Tuberculin Tests, J. Pediat. **15**: 682-696 (Nov.) 1939.

3. Doull, J. A.: The Tuberculin Test in the Control of Tuberculosis, Am. Rev. Tuberc. **40**: 634-639 (Dec.) 1939.

4. Ritter, John: The Negative Tuberculin Reactors, Illinois M. J. **71**: 347-350 (April) 1937.

5. Soper, W. B., and Amberson, J. B.: Pulmonary Tuberculosis in Young Adults, Am. Rev. Tuberc. **39**: 9-32 (Jan.) 1939.

6. Howe, J. S.: Daily Variations in Tuberculin Reaction, Am. Rev. Tuberc. **37**: 264-272 (March) 1938.

check the discharged sanatorium patients periodically. Respectfully scrutinize the very aged for active tuberculosis. Concentrations of sputum and gastric lavage should be done more frequently as a routine procedure in searching for the tubercle bacillus.

Since the inception of the program, the various counties in the district have had rotating programs; selected age groups and contacts have been retested, and most of the positive reactors are given a roentgen examination annually. The campaign against tuberculosis has been successful, probably as a result of three factors: first, education; second, improved medical and public health facilities, and third, improvement in general living conditions. In the epidemiology of tuberculosis, the public health nurse plays an important role along with the physician; the follow-up of contacts and of families is of extreme importance in control and in discovering the source of infection. The control of tuberculosis presents a more complex problem than almost any other of the communicable diseases for which the cause is known.¹³ Environmental factors seem to have a more common influence on the development of the disease than do the constitutional factors.

SUMMARY

Four years of intensive mass tuberculin tests and roentgen examinations engaged in by the general practitioner in cooperation with the state board of health in Sanitary District no. 5 of Wisconsin have revealed the following:

1. There were 36,022 tuberculin tests to which 3,991 persons reacted positively and 32,031 negatively. There were 4,074 roentgenograms taken and 232 cases of active or suspectedly active tuberculosis discovered. There were 1,222 roentgenograms which showed definite evidence of primary tuberculous infection. There were 465 roentgenograms revealing other pathologic lesions, exclusive of tuberculosis, of which the patients were not cognizant at the time. It is apparent that the use of roentgenograms is good preventive medicine for the early diagnosis and discovery of other conditions of the chest.

2. The negative reactors should not be dismissed and all the attention focused on the positive reactors.

3. The case finding productivity was highest in the adult and preschool groups, which represented only 7 per cent of the total number tested. This shows that it is among "contacts" that the largest number of cases of active tuberculosis is to be discovered.

4. This program was successful because the various methods of publicity that were employed made the communities tuberculosis conscious.

5. The cost of this program was only \$23,916, which represents a small investment of money in comparison to the dividends returned to the taxpayers by discovering early tuberculosis and thereby decreasing sanatorium costs.

6. Tuberculosis is a communicable disease, and the spread of it tends to concentrate around the infectious case; consequently the control of tuberculosis still rests with the family physician and a heavy responsibility with the medical profession and health officials. It is evident that tuberculosis still presents a fertile field for the early application of the newer developments of medical science; much work remains to be done.

Clinical Notes, Suggestions and New Instruments

MULTIPLE HEMANGIOMAS OF BONE, PROBABLY CONGENITAL

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JOHN EAGER HOWARD, M.D., BALTIMORE

Diffuse osteolytic lesions of the skeletal system are often among the clinician's most difficult diagnostic problems. Even microscopic examination of biopsy material may be inconclusive for exact diagnosis. We have recently seen a patient whose widespread lesions confused several physicians in other localities as well as ourselves. The correct diagnosis was established only by skeletal biopsy. Because we have found in the literature no clinical description of a similar case, we feel justified in calling the entity to the attention of the profession in order that it may be considered in the differential diagnosis of patients who suffer with multiple skeletal lesions, osteolytic in character.

REPORT OF CASE

History.—R. P., a white man aged 21, was referred to us by Dr. Warfield M. Firor for diagnostic study. The patient's medical history was free of all but minor illnesses until his skeletal difficulty was accidentally brought to light. Birth and development had been normal. At the age of 3 years the tonsils and adenoids had been removed. He suffered annually from mild attacks of hay fever in the latter part of the summer.

In September 1934, at the age of 16 years, after wrestling with his brother, the patient noticed slight swelling and tenderness over the left clavicle. Two days later, when tackled in a football game, he experienced a sudden sharp pain in this clavicle. Roentgenograms were taken at once and disclosed that the clavicle had been fractured through a cystic area. On the same film were noted several cystic areas in the scapula. Roentgenograms were then taken of many other bones, revealing widespread skeletal lesions of cystic type.

A diagnosis of hyperparathyroidism was made (metabolic status or electrolyte status of the serum at this time is not known) and twelve roentgen treatments were given to the anterior cervical region over a period of six months. Coincidentally he was given a calcium preparation intravenously twice each week and drank 3 quarts of milk daily. The patient states that his physicians were unable to detect any change in the skeletal lesions at the end of six months. Thereafter, for three and a half years, the patient received no therapy whatever (he continued to drink 1 quart of milk daily) and felt in the best of health. In the spring of 1939 a specimen was taken for biopsy from one of his ribs and was diagnosed osteitis fibrosa cystica.

Physical Examination.—The patient's weight was 162 pounds (73.6 Kg.) and his height 70 inches (178 cm.). The pulse was 80, the respiratory rate 18 a minute; blood pressure was

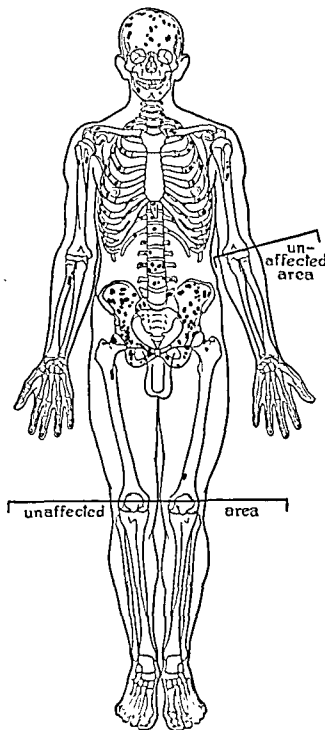


Fig. 1.—Distribution of the lesions.

13. Plunkett, R. E.: Tuberculosis Control, J. A. M. A. 113:2288-2292 (Dec. 23) 1939.

From the Departments of Roentgenology and Medicine of the Johns Hopkins University School of Medicine and Hospital.

125 systolic and 80 diastolic. He was well developed and healthy looking and stated that he had no symptoms of any kind. There were a few tiny pigmented moles scattered over the skin of the torso, but otherwise the skin was clear and



Fig. 2.—Multiple cystic areas in the pelvis with trabeculae through some of the lesions. Lesions overlap but apparently they are not confluent.

of normal texture. The scalp was searched for pigmented areas without success. No palpable or visible abnormalities could be detected in the skeleton. General physical examination by several observers resulted in perfectly normal findings.

Laboratory studies showed the hemoglobin content 16.3 Gm. (112 per cent), red blood cell count 4.91 millions, hematocrit reading 47 mm., white blood cell count 4,550. A smear and differential count were done and were normal, with 5 per cent eosinophils.

Fasting serum calcium determinations were made on four occasions and ranged from 10.4 to 10.7 mg. per hundred cubic centimeters of serum. Fasting serum phosphorus was determined coincidentally and ranged from 4 to 5.5 mg. per hundred cubic centimeters of serum. Total serum protein ranged from 6.34 to 6.5 Gm. per hundred cubic centimeters of serum.

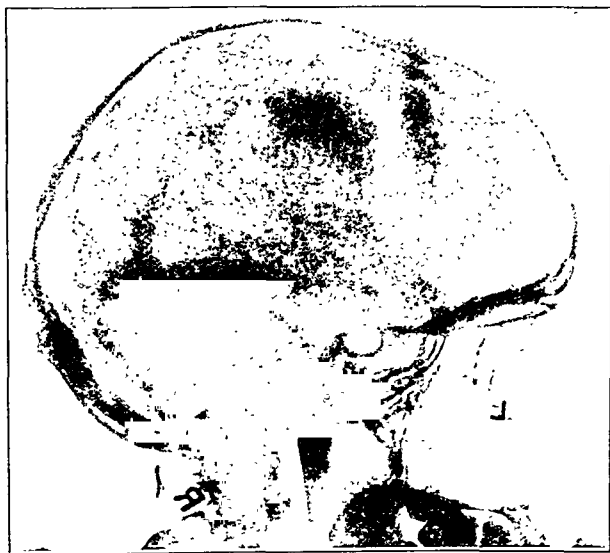


Fig. 3.—Skull showing multiple punched out areas without surrounding reaction. Diploic involvement best seen just anterior to coronal suture.

Nonprotein nitrogen was 30 mg., cholesterol 231 mg. and sugar 100 mg. per hundred cubic centimeters. Carbon dioxide combining power was 52 volumes per cent. Serum chloride was 100.6 milliequivalents. Serum phosphatase activity on two occasions was 2.5 Bodansky units.

Examination of several specimens of urine revealed no abnormal constituents.

The entire skeleton was examined roentgenologically; the distribution of the lesions is shown in figure 1.

Roentgen Examination.—Lesions were widely distributed over the osseous system; they represented cystic changes in the spongiosa which were outlined by condensed bone. These cysts were traversed by irregular coarse trabeculae, and many of them were expansive (figs. 2, 3, 4 and 5).

The skull showed numerous such lesions in the vault, where they caused localized expansion of the diploe with thinning and bulging of the tables. Large vascular channels appeared to enter some of the cysts. The left posterior clinoid process was deformed. No change was demonstrated in the base of the skull.

The vertebral bodies contained large cysts, some of which extended into the pedicles and transverse processes. The right pedicles and transverse processes of the second and third lumbar vertebrae were greatly expanded and a number of spinous processes of the other vertebrae were involved. Similar lesions were seen in the ribs and shoulder girdles. The fifth and eighth ribs on the right and the seventh rib on the left side showed pathologic fractures through the cysts. The pelvic bones were filled with irregular cysts.

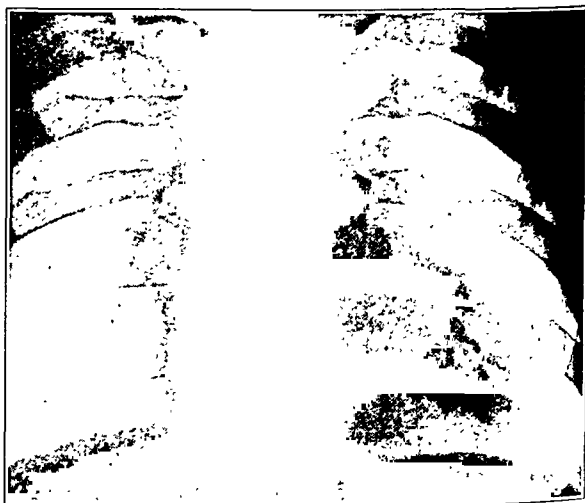


Fig. 4.—Ribs showing multiple cystlike areas with expansion.

The femoral heads were the sites of large cysts, which were found subjacent to the faintly outlined epiphyseal lines. Small cystic changes were visualized along the inner surface of the cortex of the left humerus. A large solitary cyst was demonstrated in the upper end of the right humerus and another the size of an almond was located in the lower portion of the left femur. The cortex surrounding the latter cyst appeared to be expanded, and a radiolucent channel in the cortex communicated with the cyst. This radiolucent channel represented a large blood vessel. Small, less sharply outlined lesions were seen in the upper portions of the femurs. The bones of the left forearm, lower legs, hands and feet were normal in appearance.

For ten days the patient was on a low calcium diet (estimated but not analyzed). At the end of this period a metabolic study of his urinary calcium was begun, on a diet containing 0.116 Gm. of calcium and 0.8 Gm. of phosphorus a day for two consecutive three day periods. Urinary calcium excretion during the first of these periods was 0.396 Gm. of calcium (0.132 Gm. a day) and for the second period 0.420 Gm. of calcium (0.140 Gm. a day). These amounts are well within the range of normal.

A 4 cm. portion of the sixth rib was removed for pathologic study¹ by Dr. Warfield M. Firor.

According to Dr. S. S. Blackman's report on the pathologic sections, the microscopic specimen consisted of four cross sec-

1. The microscopic sections were made for us by Dr. Stacy R. Guild of the Department of Otolaryngology.

tions of a rib (figs. 6, 7 and 8). They did not appear to form a continuous series, but in three of the sections a multilocular cavernous hemangioma could be traced. It extended from near the center of the marrow cavity outward and into the cortex of the external surface of the rib. Where the angioma occupied the more central part of the marrow cavity, at the point of greatest dimensions, it formed a single large space measuring 8 by 5 mm. Scattered irregularly in the normal myeloid and adipose tissue of the marrow, about the margins of the larger cavities of the angioma, there were a good many smaller angiomatic channels which varied from about 80 to 300 microns in greatest diameter.

The channels in the angioma were more or less completely filled with blood. At some levels they contained only serum. They were lined by a layer of endothelium superimposed on an exceedingly thin basement membrane which was only a little thicker than the walls of normal venules in the marrow.

In places the walls of the angioma lay directly over bony spicules of the shaft of the rib. In other areas the cells of the marrow lay immediately beneath the angioma, and at one point the angioma was in contact for a short distance with the inner surface of the cortex of the rib.

The bone trabeculae near the margins of the largest of the angiomatic cavities in the shaft of the rib were concentrated closer together than normal and tended to lie parallel to one another. They were narrower than the normal trabeculae lying at a distance from the angioma, and some of them were composed of partly calcified osteoid tissue. Where the angioma extended into the cortex of the bone the latter was extremely thin, measuring in places not more than 40 microns. The normal cortex of this bone, on the contrary, varied from about 0.5 to 2.5 mm. in thickness.

COMMENT

In the literature there are many reports of hemangiomas involving the skeleton. In 1930 Bucy and Capp² reviewed the literature up to that date and reported cases of their own. Pich³ described a case of hemangioma of the calvarium which was thought to be a sarcoma

Fig. 5.—Cystic appearing area in lower end of femur with thinning and expansion of cortex.

and, therefore, resected. But these reports are of isolated skeletal lesions. Saltykow⁴ reported a case in which, at autopsy, hemangiomas were found to involve three vertebrae.

The records of the department of pathology of the Johns Hopkins Hospital were searched to see whether a similar condition had been observed. Many cases in which hemangiomas involved isolated bones were found. In three cases hemangiomas were found to have involved more than one bone: In one case several vertebrae were involved, in another case three ribs were found to be the seat of hemangiomatic lesions, and in the third the skull and one vertebra were involved. In no case, however, were there anything like the widespread lesions occurring in our case.

The clinical data on our patient and roentgenograms taken of him were presented to several of our associates here and elsewhere prior to the establishment of the diagnosis, and the correct diagnosis was never once even suggested as a

diagnostic possibility. For these reasons we believe the condition to be quite rare.

Furthermore, the roentgenographic characteristics of the disease, at least as exemplified in our case, are quite decisive and



Fig. 6.—Angiomatic area in cortex of rib.



Fig. 7.—Angiomatic cavity in rib marrow. Under the microscope this cavity is seen to be filled with serum.

2. Bucy, P. C., and Capp, C. S.: Primary Hemangioma of Bone, *Am. J. Roentgenol.* 23:1 (Jan.) 1930.

3. Pich, G.: Ueber das Osteoangiom des Schädeldaches, *Beitr. z. path. Anat. u. z. allg. Path.* 101:181, 1938.

4. Saltykow, S.: Ueber das Angiom der Wirbelsäule, *Verhandl. d. deutsch. path. Gesellsch.*, 1909, p. 370.

clear cut. The lesions appear as extremely sharply demarcated, vacuolated areas in bones which seem otherwise entirely undisturbed by their presence. No evidence of fibrous, osteogenic or other irritative response appeared either roentgenographically or microscopically. The thin areas immediately surrounding the

cysts we regarded as areas of condensation and not true reactions of the bone to the tumor. The individual or clustered cystic areas varied in size from that of a large olive to that of a millet seed. Their distribution was equally remarkable and unusual. After roentgenography of the entire skeleton only one lesion was apparent below the elbows or knees. This



Fig. 8.—Small angiomatous channels in marrow.

single exception occurred in the upper portion of the right radius. The distribution of the lesions, as disclosed by roentgen rays, is seen in figure 1.

Another striking feature is the excellence of the patient's general health. Even after we had seen the roentgenograms and knew of his skeletal abnormalities, nothing abnormal could be made out on physical examination, nor were we able to elicit any symptoms of disability whatever. It is interesting to speculate as to how long the patient's disease might have continued unrecognized had not his fracture necessitated roentgen examination.

But of more importance to the patient is the (as yet) unanswerable speculation "Is the condition progressive or not?" We have assumed that the condition is of congenital origin. Will the lesions gradually develop, with pressure atrophy of more and more bone, until too little skeletal structure will remain for supportive purposes? Two reasons have led us to believe that this would not be so: 1. We have been unable to detect any progress of the lesions over a five year period when we compared the roentgenograms of the skull, long bones and thorax taken in 1935 with our own made in November 1939. 2. Nowhere either in the roentgenograms or in the specimen taken for biopsy have we been able to find any evidence of osseous destruction, irritation or effort at repair. We have given this patient a sanguine prognosis and urged him to carry out his planned matrimonial venture.

In differential diagnosis the most likely confusion will arise from xanthomatosis. The latter disease commonly causes multiple, clear-cut, irregular cystic areas in the skeleton without evidence of any response on the part of the affected bone. Furthermore, the patient may be in apparently the best of health until the terminal phase of his disease. Distribution of the lesions should, however, if our case is characteristic, give a clue, and biopsy should be conclusive.

Osteitis fibrosa cystica (hyperparathyroidism) should be readily distinguished by (1) its characteristic metabolic disturbances and (2) the generalized rarefaction if the skeleton is involved at all.

Osteitis fibrosa disseminata may be differentiated by (1) the completely different distribution of the skeletal lesions, (2) their different appearance on roentgen examination (areas of rarefaction beside contiguous areas of new osseous formation), (3) the pigmented areas on the skin and (4) the precocious sex development in females of this group.

These three are by far the most likely skeletal diseases to be confused with the condition under discussion. But when one considers the matter closely it may be seen that, clinically, this differential diagnosis is really not difficult for any one of them, except the first, provided one knows of and thinks of the possibility of disseminated hemangiomas of bone. Our worst confusion was not that we thought our patient suffered with any one of the three diseases just mentioned but that at that time we did not know of any other condition he might have. It seems useful, therefore, to record this case, which should be kept in mind when cystic or vacuolated multiple skeletal lesions are encountered which do not fit in with any of the other more common disease entities.

24 East Eager Street.

USE OF PYRIDOXINE HYDROCHLORIDE (VITAMIN B₆) IN PARKINSONISM

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The numerous and recent successes in the field of vitamin therapy have made enthusiastic and stimulated clinician and investigator alike. Almost monthly new clinical application of administration of vitamins is reported in leading medical periodicals throughout the country. That much of this work has

Effect of Pyridoxine Hydrochloride on Patients with Parkinsonism

Name	Age, Years	Sex	Clinical Features	Duration, Years	Dose, Mg.	Results
Postencephalitic Patients						
J. B.	27	♂	Severe generalized parkinsonism	14	50	No change observed
E. N.	34	♂	Severe generalized rigidity and tremor; oculogyria	20	50	No change observed
F. O.	53	♂	Severe generalized parkinsonism; masked facies; cogwheel rigidity	5	50	No change observed
G. H.	37	♀	Tremor of face and arms; stare; flexion posture	9	40	No change observed
J. J.	44	♂	Very severe generalized parkinsonism; masked facies with stare; flexion posture; oculogyria	5	50	No change observed
M. P.	51	♀	Moderate cogwheel rigidity of neck and extremities	2	50	No change observed
H. S.	40	♂	Mild left hemiparkinsonism	2	100	No change observed
J. H.	36	♂	Moderate generalized tremor and rigidity	3	100	No change observed
E. W.	48	♀	Moderately severe tremor of face and arms	4	100	No change observed
J. D.	38	♀	Generalized tremor; no rigidity	8	100	No change observed
Arteriosclerotic Patients						
I. G.	79	♂	Tremor and stiffness of right arm and hand	1	50	No change observed
A. S.	60	♂	Severe tremor of arms and head	1	50	No change observed
C. L.	64	♀	Mild generalized tremor; moderate left-sided rigidity	1	100	No change observed
C. I.	64	♂	Severe generalized cogwheel rigidity and tremor	22	40	No change observed
A. W.	54	♀	Masked facies; tremor of tongue and extremities; flexion posture	4	100	No change observed

proved of real and lasting value there is not the slightest doubt; the alleviation of symptoms and cure of long-known disease processes which heretofore have been therapeutically unapproachable unequivocally attests to this fact. The heroic relief obtained in patients with severe deficiency states, especially prevalent in the South, and those less obvious but more widespread alterations of the human economy which one now recognizes as "subclinical" or "hypovitaminotic" states are

being increasingly brought under control. However, the enthusiasm and eagerness of clinicians to use vitamin therapy in nondeficiency and other conditions have expanded the clinical application of these substances far beyond their proper confines. This wave of enthusiasm must, therefore, be guided by true observation and tempered by sound clinical judgment.

The present study was instigated after the appearance of several reports by Jolliffe and others¹ which dramatized immediate and amazing beneficial effects in postencephalitic and arteriosclerotic parkinsonism by the intravenous administration of one or more doses of 50 to 100 mg. of pyridoxine hydrochloride (vitamin B₆). Dr. Jolliffe reported this work in April 1939 at a symposium on vitamins at Mount Sinai Hospital, New York, and again before the American Neurological Association in June 1940.² He stated that "within a few minutes there was much improvement, rigidity was decreased significantly and the patients were able to walk without the usual stiffness." Spies later reported before the Illinois State Medical Society the results of studies concerning the use of pyridoxine in 11 selected cases of parkinsonism of at least four years' duration, 8 of which were arteriosclerotic and 3 postencephalitic. He stated that "within a few minutes there was much improvement in the latter 3."

In view of the gratifying results obtained by these reliable workers, I felt moved to try this same type of therapy. Accordingly, a group of 15 patients with parkinsonism were selected from private practice, 10 of whom had the postencephalitic and 5 the arteriosclerotic type. Daily doses of 50 to 100 mg. (repeated one to three times) were administered intravenously to this group. I might add that this series of patients constituted an especially fitting one for such a study, since all of them had previously been under my observation for a period of six to eighteen months. Real improvement could therefore be accurately evaluated by comparison with the carefully recorded previous condition of the entire group. Moreover, particular care was taken to avoid any suggestive comment at the time of injection or thereafter, so that the psychologic effects of a "new" medicine would not be a factor in the therapeutic result. This is particularly important, I believe, since the threshold of suggestibility in patients suffering from parkinsonism is universally low and any therapeutic result can be easily misconstrued in such patients. This high degree of suggestibility which characterizes the parkinsonian state must be constantly kept in mind when making observations on such patients.

The results of this study, as shown in the accompanying table, revealed no beneficial effects whatever in any of the patients in this group. Two patients stated that they "thought they felt a little better," although careful neurologic examination at the time and several days later revealed no change in the degree of muscular rigidity or tremor. No toxic or untoward effects were noted at any time after the administration of doses as high as 100 mg. given intravenously.

COMMENT

It is my opinion as well as the opinion of many other workers that in order to consider a special form of vitamin therapy truly efficacious in altering the course of a known disease process the following two criteria should be fulfilled: (a) A deficiency should exist in the bodily economy of the particular vitamin substance which is being supplanted artificially, and (b) any degenerative process which has developed as a result of an existing deficiency must necessarily still be "reversible" in order for the specific therapy to be of value.

The rationale which initially prompted workers to administer pyridoxine hydrochloride to patients with parkinsonism fulfils neither of these two essential criteria. It has never been shown, either experimentally or clinically, that parkinsonism can result from deficiency of vitamin B₆. Secondly, the neuro-pathologic changes localized in the globus pallidus and substantia nigra, which are known to be the underlying lesions

of parkinsonism, represent a degeneration which has occurred and existed for years in these areas of the central nervous system. It is a profound type of structural damage, characterized pathologically by the replacement of nerve cells by glial tissue and one which can hardly be considered "reversible."

SUMMARY AND CONCLUSIONS

1. Repeated intravenous doses of 50 to 100 mg. of pyridoxine hydrochloride were administered to a selected group of 15 patients with parkinsonism.

2. No beneficial effects whatever were noted after this treatment.

3. No untoward effects were noted as a result of this treatment.

4. On the basis of the foregoing study it is my opinion that pyridoxine is of no value in the treatment of parkinsonism.

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Special Article

LEGAL RESPONSIBILITY FOR MEDICAL MALPRACTICE

II. MALPRACTICE: SOMETHING OF THE ANATOMY OF THE LAW

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When a physician seeks to make contact with legal thought, he may feel as forlorn and lost as a curious traveler among users of an unknown tongue. This is not so much because the law is filled with words of art or because lawyers desire to keep the subject out of reach of the layman. Courts now regard it as a vain display to use Latin maxims, and much of the old technicality has been swept away. The real difficulty arises because the layman is unfamiliar with a limited number of combinations of vowels and consonants which lawyers take for granted.

He who acts as interpreter should proffer enough comment to make the landmarks vivid and the journey pleasant, while sparing his charge the ennui of the encyclopedic. It is in the role of such a guide that I have essayed this abbreviated account of the modern law and the materials with which it works.

On July 5, 1939 the Supreme Court of Pennsylvania handed down its important opinion in *Hodgson et al. v. Bigelow*, 335 Pa. 497, 7 Atlantic (2d) 338. The plaintiff, a boy of 8 years, fell on a stick while at play and received a dirty, penetrating wound of the thigh, 5 inches (13 cm.) long. The defendant, a practicing physician of Philadelphia, relying on his judgment, made no incision or débridement, did no test to determine hypersensitivity to serum and gave no tetanus antitoxin. Finding the mouth of the wound was half an inch (1.3 cm.) wide, he swabbed to the bottom with alcohol and iodine, inserted a loose gauze drain and applied a sterile dressing. He repeated the same treatment on three successive days, the wound appearing "very satisfactory." He did not see the boy on the fifth day, but on the sixth, the stepfather told the physician the child had complained about his jaws hurting and being stiff. Thereupon, the physician made an examination and pronounced the jaws and mouth "perfectly normal." On the seventh day the boy was rushed to a hospital, suffering from tetanus and a staphylococcal infection of the leg. He had a stiff neck, his

1. Jolliffe, Norman, cited by Spies, T. D.; Hightower, D. P., and Hubbard, L. H.: Some Recent Advances in Vitamin Therapy, *J. A. M. A.* 115: 292-297 (July 27) 1940.

2. Jolliffe, Norman: Treatment of Paralysis Agitans by Vitamin B₆, read before the meeting of the American Neurological Association, Rye, N. Y., June 6-8, 1940.

mouth opened only half an inch (1.3 cm.), his abdominal muscles were rigid and he suffered from generalized rigidity of all the voluntary muscles. He spent four weeks in the hospital; he underwent débridement of the wound immediately and a closure operation twenty-three days later and received a total of 750,000 units of antitetanus serum. By the time he was discharged he had incurred medical bills of more than \$1,500. He sued the defendant for alleged negligence in failing to administer tetanus antitoxin.

At the trial, five reputable physicians and surgeons (among them X) in testifying for the plaintiff asserted that the injury was a "puncture wound," which prevailing medical standards in the community demanded should be incised to its depths, cleaned and drained and which necessitated giving the patient a subcutaneous injection of 1,500 units of tetanus antitoxin immedi-

Furthermore, in submitting the case to the jury, the trial court did not make clear the important questions, or "issues," they were to decide. The jury returned a verdict for the defendant. The trial court granted a motion for new trial filed by the plaintiff. It did so because the court was of the opinion that perhaps some of its rulings and remarks may have been prejudicial to the plaintiff. From the order granting a new trial, the defendant appealed. The Pennsylvania Supreme Court held that the new trial was properly granted, saying:

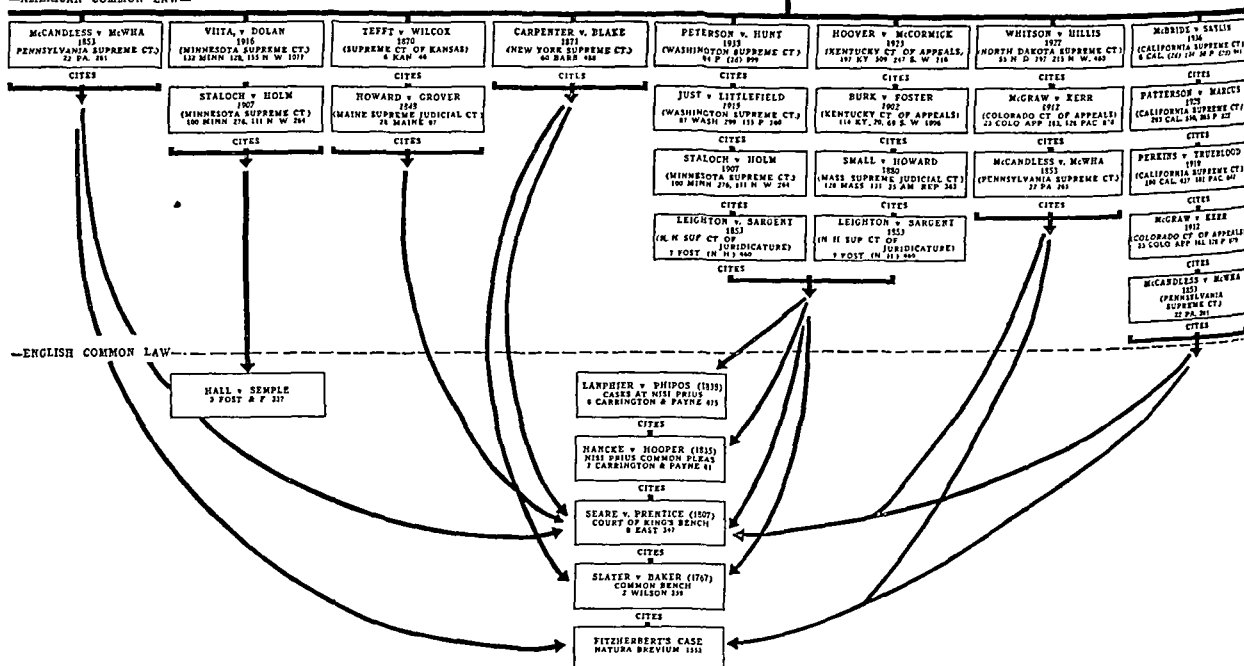
The first question for us to decide is whether or not the plaintiff made out a prima facie case of malpractice against the defendant; if this question is answered in the negative, the verdict in favor of the defendant should stand and no new trial should be had. If the question is answered in the affirmative, we are then faced with the second question: Did the court err in granting a new trial?

HODGSON v. BIGELOW (SUP. COURT, PENNSYLVANIA) JULY 5, 1939, 7 ATL. (24) 338

(FAILURE TO GIVE TETANUS ANTITOXIN FOR A "PUNCTURE" WOUND MAY CONSTITUTE CIVIL MALPRACTICE)

CITES AS AUTHORITY THESE CASES

—AMERICAN COMMON LAW—



Genealogy of a common law decision, showing derivation of the American law of malpractice from English precursors.

ately, with a repetition in ten days. The defendant on cross examination was asked this question: "So the wound when you finished treating it was still a puncture wound rather than an incised wound?" He answered: "Yes."

The defendant called nine physicians of good professional repute (among them Y), and they testified, in effect, that a substantial group of physicians in good standing in Philadelphia in May 1936 would have rendered the same treatment which Dr. Bigelow did in this case. On cross examination they admitted that the administration of antitoxin would be indicated for a "puncture" wound, but though they had not seen it, they refused to consider this a "puncture" wound because instead of a narrow mouth it had an orifice which would admit air, a swab and a drain.

The trial judge said, in the jury's hearing, of one item of testimony given by Y, a witness for the defendant: "The effect of that is, of course, to destroy X's testimony."

By a 4 to 3 decision, the court held that the plaintiff's evidence, including testimony that the injury was a "puncture" wound, made out a prima facie case of negligence against the defendant for failure to administer antitoxin. But the defendant's witnesses denied it was a "puncture" wound. This conflict in the expert testimony raised a disputed question of fact, which must be submitted to the jury. If the injury was found not to be a "puncture" wound, the defendant's omission to give antitoxin would not constitute negligence. In that event, the way he treated the injury represented a legitimate choice between two alternative approved methods. The trial court committed prejudicial error in failing to clarify the issue so as to make it clear to the jury that the crucial question was "puncture" wound or not" and in transgressing the province of a trial judge by declaring that the testimony of Y destroyed that of X. This comment on the evidence was an improper and prejudicial invasion of the jury's function, since the credibility and weight of all testimony

is for the jury to decide. Therefore, the order granting a new trial had to be affirmed.

This case was chosen not only for its intrinsic interest but to test the assertion sometimes made that the American common law of malpractice has no kinship with the law of England. Of course it is only the preserved, published opinions of courts of appeal that collectively make up the large body of "judge-made" or so-called "common law."¹ On questions not covered by constitution or statutes this "common law" is the law of the land. Appellate judges shy away from deciding cases without precedent, and so they refer to earlier opinions of their own and of sister states in support of the immediate action taken. If an opinion is carefully analyzed, it will be found to turn on one or more crucial principles. These constitute the "ratio decidendi," while the composite of loose, unnecessary language indulged in in reaching the decision is called "dicta." A dictum has no binding force as precedent but only such persuasive influence regarding a later case as its logic and vigor may win for it. One may ask: In America, where the forty-eight states are autonomous and each has its judicial system, what influence do the appellate decisions of one state have on the courts of a sister state? The answer is that all the states but Louisiana² at an early date adopted the then existing English common law as a basis of decision or as an analogous reference. They then began a process of changing and developing it to suit the needs of the new world. In this evolution, a given state court is bound only by the precedents of its own appellate courts or, on federal questions, by the precedents of the United States Supreme Court. Nevertheless, on novel questions, it is customary for lawyers to argue and courts to consider, as persuasive authority only, the opinions of the highest courts of other states and, indeed, sometimes of the modern English courts. Thus, in respect to many legal questions of common concern, a symmetric development and growth have been preserved throughout the nation through this process of habitual reference to decisions of other jurisdictions. On more disputable questions, appellate courts of different states may subscribe to different views and thus give rise to so-called "splits of authority."

One may begin with the most recent opinion of a court and by tracing back the precedents on which it relies to still earlier precedents come, at last, to the common source of them all. Such endeavor is reminiscent of the labor of a grubbing geologist, who uncovers a late stratum and then earlier ones, until at last he proves that the bird of the later stratum sprang from some ancient reptile of an earlier layer. I have traced in the chart the genealogy of the main authorities cited in *Hodgson v. Bigelow*, skipping some of the intermediate stratums, to show that legal tradition is continuous and that conceptions of medical responsibility, in fact, trace back to original English progenitors.

In connection with legal sources, what are the types of "judge-made" precedents which collectively form the common law applied by the courts? For convenience, some of the more significant features of the three essential types have been tabulated in comparative form.

1. Recently, the occasional written opinions of federal district courts and the trial courts of one or two states have been published and thus preserved as precedents of a lower rank.

2. This state has a unique local law derived from the civil doctrine of the Napoleonic Code, a heritage of its days as a French possession. Several of the Western states have community property laws (controlling property rights between husband and wife), which are a heritage of the Spanish law.

TYPES OF "JUDGE-MADE" LAW ORIGIN

CIVIL COMMON LAW:

Civil common law is a composite of (1) ancient customs of the realm; (2) contributions of old Germanic law; (3) conceptions of land tenures and other legal ideas brought to England by the Normans in 1066; (4) rights and duties created by the royal prerogative; (5) special concessions exacted from the crown in way of guaranties of basic rights and human liberties, as the "Magna Charta"; (6) old acts of parliament; (7) occasional, unacknowledged references to Roman law in deciding novel controversies; (8) accumulated precedents of prior cases; (9) actual extensions of existing doctrine (true lawmaking), under the guise of interpreting old principles; (10) interpretations of statutes and constitutions in case of ambiguous language or of doubt as to the scope of their application; (11) enforcements of new policies of law arising from the legislative function in the form of constitutional provisions, municipal ordinances, statutory enactments or proper administrative rulings, and (12) "Americanizations" of the English common law as taken over shortly after the American Revolution. Modern common law has parted company with the old system of "writs" and the scholastic approach to liberalize its entire perspective and bring its doctrines as to procedural and substantive law into keeping with the changing social order.

CRIMINAL COMMON LAW:

In general, the origin of criminal common law is the same as that of civil common law except that in modern times "penal codes" have been enacted in most jurisdictions, which define what conduct shall be deemed criminal, fix the magnitude of the offense and prescribe appropriate penalties and punishment. Thus, what is a misdemeanor in one state may today, by virtue of positive enactments, constitute a felony in another. Building on these points of departure, a large body of "judge-made law" has sprung up for construing and applying the penal codes to the diverse problems presented to the courts for solution. These precedents of appeal courts are preserved and again form reference material for subsequent proceedings.

EQUITY:

Equity began as an exercise of royal prerogative on petition of persons to the crown in peculiar cases for which rigid common law did not provide substantial justice. As these appeals grew, the king delegated such matters to one person, who finally grew to the stature of chancellor, administering justice on the individual merits of the case according to the respective "equities" of the parties.

Thus, after the Norman Conquest in 1066, the office of chancellor was usually occupied by an ecclesiastic who, as a member of the king's select council, helped determine causes which the ordinary judges were incapable of determining. This was in fact an exercise of the king's royal prerogative in his place and stead. By the reign of Edward I, the chancellor had gained some independent judicial stature and was hearing cases referred by the king or council. The new tribunal advanced rapidly in power and came to sit as a regular court at Westminster during the reign of Edward III (1327 to 1377). The establishment of the Court of Chancery as a regular tribunal for administering equitable relief and extraordinary remedies is usually referred to the twenty-second year of the reign of Edward III, when he ordered by general writ that all such matters as were of Grace should be referred to the chancellor, but this probably merely confirmed an existing practice of many years' duration. The practice of appointing as chancellor jurists versed in common law, instead of ecclesiastics, arose during this time, and by the end of the reign of Henry V (1413 to 1422) the strictly formative period was over, and Chancery was one of the strongly entrenched courts of the realm. Its prestige and power were greatly enhanced through the fact that the statute of 13 Edw. I, Ch. 1, § 24, which had been intended to enable the invention of new writs in law actions to cover novel situations, was aborted by the strict and narrow construction put on its language by the common law judges; this tended to freeze the whole common law system of writs in its existing pattern.

and drove the litigant (plaintiff or defendant) with a novel contention back into equity.

At first, precedents were not saved, but later they were preserved and resorted to as authorities and constituted a separate system of equity jurisprudence supplementary to the law.

Reasons for the development of equity lay in certain deficiencies of the common law:

1. There was a scholastic rigidity of certain doctrines of the old common law.

Example.—Suppose X sued Y on a sealed instrument. At law, Y could not plead a release and discharge unless it, too, was under seal. In equity, such a defense could be asserted.

2. In early common law there developed a system of "writs," or so-called "forms of action," under which a plaintiff must be able to fit his case to recover.

Examples.—"Replevin" was the proper action to recover personal property wrongfully taken; "detinue" to recover property rightfully taken but wrongfully detained; "trespass vi et armis" for direct injury by the intended act of another; "trespass on the case" for consequential or unintended injury by another (as by negligence), and "trespass quare clausum fregit" for trespass on real property.

Unfortunately, the invention of new standardized writs was not continued by the common law; and the principle of growth being arrested, litigants with novel claims which no existing writ would fit were without remedy in a court of law and so resorted to the king and later to the chancellor.

3. Law courts generally could not command a defendant to do a given thing.

Exception.—There was the writ of mandamus at law to require a public official to perform a legal duty.

The chancellor in equity could order such acts on pain of punishment for disobedience ("contempt").

4. The old common law dealt only with two-sided disputes, while equity would adjust the competing interests of several parties in a common subject matter.

5. The old common law would not consider events transpiring after the writ was filed, while equity would take into account all that occurred until the end of the suit and decree accordingly.

6. The law presupposed an existing controversy or alleged injury as the basis of action, while equity would render advisory opinions in respect to such subjects as a proper distribution of trust funds.

To avoid unseemly conflicts with courts of law, equity early adopted the rule that it would assume jurisdiction only when the remedy at law was inadequate and the burden rested on the petitioner to show this inadequacy.

PROCEDURE³

CIVIL COMMON LAW:

The plaintiff proceeds by action at law, pleading his cause of action in a petition or declaration served on the defendant. In this pleading he sets forth the essential facts of the defendant's alleged wrongful conduct, details the injury caused thereby and prays judgment for a specified sum in money damages by way of compensation.

CRIMINAL COMMON LAW:

The state is plaintiff and proceeds by complaint or indictment against the defendant, who is arrested but may remain at large until trial by posting bail (usually a bond providing for forfeiture of the principal amount in event the defendant defaults by failing to appear for trial).

EQUITY:

The petitioner (plaintiff) brings a suit in equity against the respondent (defendant) on a pleading known as a bill, the respective allegations of which the respondent in his answer must specifically admit, deny or qualify.

3. In no court can a plaintiff prove what he has not pleaded, and the same rule applies to defendants in respect to affirmative defenses.

COURT IN WHICH ADMINISTERED

CIVIL COMMON LAW:

Cases in civil common law are tried in civil courts, the proper court of original jurisdiction being determined by such considerations as the nature and the size of the demand, as set forth in local statutes conferring the jurisdiction.

CRIMINAL COMMON LAW:

Cases in criminal common law are tried in criminal courts or, in smaller localities, by the judge of the civil court sitting as a court of criminal law.

EQUITY:

Under old English practice, law and equity were administered by separate courts. Now, in a single proceeding, a litigant may have both the legal and the equitable remedies to which his case might entitle him. The old procedural distinction has been abolished in modern times in most states by "merger clauses" of state constitutions or statutes. These confer on one judge the full powers formerly wielded by the separate courts of law and equity. They do not affect the substantive distinctions between the two systems of jurisprudence. Hence, though equitable remedies may be had in the same action, they will be granted, as before, only on a showing that available legal remedies are inadequate.

In a few states (Delaware, Maryland, Mississippi, New Jersey, Tennessee and Vermont), separate equity courts are still maintained. In these states, one cannot get an equitable remedy in a law court. In the federal practice, the traditional distinction between the courts of law and of equity is preserved in a somewhat different way. Federal district courts maintain separate dockets for law and for equity cases. At law term, the court tries law cases; at equity term, it sits as a court of equity. Differences in the mode of pleading law and equity cases are not abolished as in state practice under "merger" provisions. Both parties are required to plead according to the federal equity rules promulgated by the United States Supreme Court.

MEASURE OF PROOF REQUIRED

CIVIL COMMON LAW:

The plaintiff must establish the essential elements of his case by a preponderance of the (credible) evidence. Both parties have a constitutional right to trial by jury of any question of fact.

CRIMINAL COMMON LAW:

The state must prove its case beyond a reasonable doubt. A constitutional right of trial by jury may be asserted by the defendant.

EQUITY:

Equity may vary the degree of proof required according to whether the circumstances are "suspicious" and demand "clear and convincing proof." Generally speaking, it requires only a preponderance of the evidence. At common law, no right to trial by jury existed in equity. Accordingly, it is held in the federal courts that no right to trial by jury exists today in a federal suit in equity, the constitutional guaranty preserving only such right as existed at common law.

MODE OF TRIAL

CIVIL COMMON LAW:

If the plaintiff and the defendant join in "waiving" jury trial, questions both of law and of fact are tried by the court. If a jury is demanded, the trial functions are divided. The court is to decide questions of law, rule on adequacy of pleadings and on admissibility of evidence, enforce rules of court and "instruct" a verdict for the appropriate party when the person carrying the burden of proof fails to offer enough evidence to warrant reasonable men founding a verdict on it. If, however, an issue of fact is raised by conflicting testimony, the court must prepare a proper "charge," submitting the pertinent questions of fact to the jury under such appropriate legal definitions as may be

required. In general, in state courts, the judge is forbidden to comment to the jury on the weight or credibility of the evidence. Under the practice of the federal courts, the judges possess such power of comment.

It is the province of the jury to decide the questions of fact according to the weight of the credible evidence before them, giving such weight and credence to testimony as they see fit. Thus a party with one witness may prevail over his opponent who offers six. Material facts not offered in evidence cannot be considered by the jury, and they are not to concern themselves with the legal effect of their answers.

CRIMINAL COMMON LAW:

In general, there is the same division of functions when judge and jury are used: The court determines the law, and the jury determines the facts.

EQUITY:

The chancellor in equity determines questions both of law and of fact (except in those states whose constitutions broadly guarantee a right to trial by jury of every issue of fact, without distinction between law and equity).

He may make use of a jury in an advisory capacity to help determine facts or appoint a referee or auditor to go over a series of complicated transactions, as in alleged corporate swindles, financial frauds, accountings and trust transactions.

TYPE OF REMEDY GRANTED

CIVIL COMMON LAW:

The court grants substitutional redress in the form of money damages. The court enters judgment on the verdict for the damages established but does not collect them. In seeking payment, the plaintiff must put his judgment in the hands of the sheriff; the latter levies execution on any discoverable "non-exempt" assets of the defendant and sells them at public sale. Today, courts of law also foreclose mortgages and fix liens, and by statute a plaintiff may "sequester," "attach" or "garnishee" various types of property pending trial in certain specified cases covered by statute.

As contrasted with equitable remedies, law remedies usually give redress which is substitutional and not "in personam"; the defendant is not ordered to do a specific thing.

CRIMINAL COMMON LAW:

The sentence of the court is penal: fine, imprisonment or execution, each being a price exacted by society as expiation for the crime. One should not overlook the fact that in appropriate cases the severity of the penalty may be reduced by probation or suspended sentence or by the intervention of executive clemency in the form of pardon.

The penalty is characterized by some jurists as "retributive," by others as deterrent and by those who are still more inclined to hold society partially at fault as both "deterrent and reformatory."

There can be no doubt that modern law has supplemented the primitive concept of pure retribution with a humane interest in rehabilitation. This has gone forward with a more honest recognition of the limitations of "free will" and of the role of social factors in the causation of some types of criminality. The final warrant for the more enlightened approach to the problems of criminality, in the eyes of many, is still the protection of society, but protection achieved by a species of intelligent prophylaxis directed against future criminality.

EQUITY:

The court acts directly on the person of the defendant, requiring him by its decree to perform or desist from certain conduct. It can also assess money damages as supplemental relief.

Among its important special remedies are: (1) granting of injunctions; (2) granting specific performance of unique contracts (as for sale and purchase of land), when the law would give only money damages for the breach; (3) decreeing rescission and cancellation of contracts obtained by fraud; (4) quieting of title by removing "clouds from title;" (5) granting accounting in termination of partnership relationships and so forth; (6) appointing receivers, as for insolvent corporations, and (7) creditors' bills and bills of discovery.

RIGHT OF APPEAL

CIVIL COMMON LAW:

Provided the sum involved is above a certain minimum amount and provided there is conformance with jurisdiction statutes, either party within a specified time after trial may perfect an appeal. Usually the case may be carried to an intermediate court of appeal as a matter of right but to the state supreme court only in the latter's discretion. If, as in some states, there are no intermediate courts, the disappointed litigant may usually take his appeal to the state supreme court as a matter of right.

Appeal to the United States Supreme Court is granted only in that court's discretion, only on certain questions and only when appeals to the highest state courts are first exhausted. The Supreme Court is increasingly confining its grant of appeals (that is, grant of writ of certiorari) to questions involving important federal legislation, constitutional guaranties or matters of national public importance.

CRIMINAL COMMON LAW:

The defendant has a right of appeal, but the state has none.

EQUITY:

Either litigant may appeal.

SCOPE OF APPEAL

CIVIL COMMON LAW:

No new testimony can be offered on the questions under litigation. For the facts, the court looks to the jury's verdict (containing fact findings) or, in the absence of a jury, to the findings of fact entered by the trial judge. As to the sufficiency of evidence to support such fact findings, the court looks only to the sworn testimony and exhibits contained in the "statement of facts" prepared by the court reporter, approved by counsel and verified by the trial judge. Pleadings, rulings of the court and judgment are included in a separate "transcript" similarly prepared and verified. The "statement of facts," "transcript" and "appeal bond" constitute the record which comes before the appellate court. Counsel are confined to arguments of law, namely, (1) that as a matter of law no evidence was offered warranting submission of fact issues to the jury and (2) that errors of law were committed by the trial court in its rulings, in its judgment or in the conduct of the trial; that prejudicial conduct was indulged in by opposing counsel (such as improper argument) or that misconduct occurred in the jury room (such as consideration of matters not in evidence).

An appellate court can enter one of three decisions in a case properly before it: (1) affirm the judgment of the trial court; (2) reverse the judgment entered below and remand the cause for a new trial, or (3) when the case has been fully developed on the merits and it appears that a judgment awarded a party in the trial court is based on evidence too flimsy to support the verdict of a reasonable man, reverse and render the judgment of the trial court. This involves taking the judgment from the party to whom it was awarded below and making it final in favor of the opposite party. This drastic power is exercised only in the most clearcut cases and usually in cases in which the trial court erroneously refused a motion for an instructed verdict based on the same want of evidence.

CRIMINAL COMMON LAW:

The scope of review is similar to that of civil common law.

EQUITY:

The scope of review is similar to that of civil common law.

APPLICATION TO QUESTIONS OF MEDICAL RESPONSIBILITY

CIVIL COMMON LAW:

Civil common law is the law which is most important and most frequently applied. The doctrines of civil law which are most pertinent are:

1. The law of contracts: It affects the creation of the physician-patient relationship and modifies the scope of duty which automatically arises under the law of torts.

2. The law of torts: It is made up of doctrines which permit a person to recover compensatory damages for injuries due to invasion of his rights of property or personality by another and are not dependent on contractual or consensual relationship.

(1) Battery: Any touching of another for which consent has not been obtained.

Example.—The action of a surgeon who with permission to remove the appendix alone removes the patient's tonsils as well.

Under old common law, proper action was by writ of trespass for a direct, intended contact.

(2) Fraud on the rights of health of the patient:

Example.—The action of a physician who, knowing that his treatment can be of no benefit, induces a patient to continue it and thus to incur a large bill by assurances that it is well suited to effecting a cure.

Even though the wrong is intentional, the injury is usually consequential. Hence, under the old common law, the writ would be "action on the case."

(3) Negligence: A negligent affirmative act or an omission to act in respect to one to whom a duty of care is owed.

Example.—The action of a physician who causes serious injury by negligently inserting acid instead of oil into the ears of a patient. Or again, the action of the physician who abandons the care of a sick patient without his consent or without due notice of his intention to withdraw.

Negligence is redressible as consequential, unintended injury at common law by action of trespass on the case, or "case."

(4) False imprisonment: Holding of another prisoner against his free will.

Example.—The action of a physician who by force requires a patient of sound mind to come with him against his will to some place for supposedly urgent treatment.

The remedies are purely substitutional, money damages being given by way of compensation.

The only element of punishment in any of these civil actions is rare assessment of "punitive damages" for extreme or gross malpractice.

CRIMINAL COMMON LAW:

1. Penal sanctions are contained in medical practice acts, which are directed against practice without a license.

2. Penal sanctions are directed against those acts which constitute violations of criminal law whether committed by a physician or by a layman, such as (1) murder, (2) criminal abortion, (3) dispensing of narcotics and (4) assault and battery.

Note: These are so-called international crimes, which are recognized without reference to whether they are perpetrated in the course of medical practice. If they are committed in the care of a patient, they may also constitute malpractice, and the act which injures the state and is thus a crime may also afford basis to the injured person for a civil malpractice suit to recover compensatory damages.

3. In regard to the crimes which might be committed by a physician in the course of an honest effort to cure a patient and which, therefore, represent the most likely instances of criminal malpractice, three crimes should be considered:

(1) Murder. At the common law and under many modern statutes, there may be a murder conviction based on death caused by an extreme kind of recklessness, although there may have been no intent to cause the death of the victim. As applied to a physician, it would need to be proved that he used a form of medical treatment which was so imminently dangerous to the patient as to show a "depraved mind regardless of human life." Needless to say, prosecutions of this kind against physicians are rare.

(2) Manslaughter. The penalty for this crime is less than that for murder, and a correspondingly lower degree of recklessness is required, although even for liability for this crime the death must have been caused by conduct showing a greater degree of negligence than is necessary for civil liability.

(3) Assault and Battery. If injury to a patient short of death is caused by a course of treatment sufficiently reckless to warrant a conviction of murder or manslaughter if the patient had died from it, there may be a conviction for assault and battery.

It should be remembered that in all criminal proceedings the offense charged must be proved beyond a reasonable doubt.

Remedies are penal, with a view to punishing and deterring such conduct. In every instance, the state occupies the role of plaintiff, for the injury is to society.

The leading American case is that of *Commonwealth v. Pierce* (Supreme Judicial Court of Mass., 1884) 138 Mass. 165. Pierce, a practicing physician, was indicted for manslaughter for allegedly causing the death of his patient, Mary Bemis. Pierce had been in attendance as her physician since Dec. 29, 1882. On Jan. 7, 1883, she became very sick and was confined to her bed. Pierce prescribed the application to a large part of her body of kerosene-soaked flannels, which were to be renewed every three hours. He never applied them himself, leaving this to her husband and attendants. The patient consented to the treatment, which was continued until January 14, when the defendant was discharged and other physicians called. On January 16 she died of burns, blisters and suppurating sores extending over two thirds of her body. Neither the averments of the state's indictment or the proof offered showed that the defendant knew of the dangers of kerosene so applied or that he acted with evil intent. The trial court refused to give rulings, requiring these for conviction, as well as a requested charge that "the defendant cannot be convicted under this indictment, if the death resulted from any degree of ignorance on his part, if he was acting with the purpose to cure or benefit the patient." Instead, the trial judge instructed the jury as follows: "Injurious acts resulting from gross carelessness or foolhardy presumption, without intent to injure, may constitute an assault. If persons who are engaged in operating steam engines are guilty of gross carelessness or foolhardy presumption, and injuries result, they are criminally liable. So, with apothecaries, if a person without knowledge and skill deals with deadly drugs, he may be guilty of gross carelessness amounting to presumption, and be criminally liable. Whenever men are called upon to act with dangerous agencies, the law holds them to some degree of criminal responsibility. If they are grossly careless, or reckless and presumptuous, they are guilty. The same general principle applies to medical treatment. The government must show, not merely the absence of ordinary care, but gross carelessness amounting to recklessness. A man is not to be convicted of manslaughter merely because of his ignorance. His ignorance is only important as bearing upon the question whether his conduct in the care and treatment of the patient was marked by foolhardy presumption or gross and reckless carelessness. The defendant in this case is to be tried by no other or higher standard of skill or learning than that which he necessarily assumed in treating her; that is, that he was able to do so, without gross recklessness or foolhardy presumption in undertaking it. It is not necessary to show an evil intent; if, by gross and reckless negligence, he caused the death, he is guilty of culpable homicide. The question is whether the kerosene (if it was the cause of death), either in its original application, renewal, or continuance, was applied as the result of foolhardy presumption or gross negligence on the part of the defendant."⁴

4. From a conviction, the defendant appealed, complaining that the indictment and charge were deficient in the respects previously mentioned.

Mr. Justice Holmes, in a learned opinion affirming the conviction, approved the foregoing charge of the trial court. He said, among other things:

"More specifically, the questions raised by the foregoing request and rulings are whether an actual good intent and the expectation of good results are an absolute justification of acts, however foolhardy they may be if judged by the external standard supposed, and whether the defendant's ignorance of the tendencies of kerosene administered as it was will excuse the administration of it.

"So far as civil liability is concerned, at least, it is very clear that what we have called the external standard would be applied, and that, if a man's conduct is such as would be reckless in a man of ordinary prudence, it is reckless in him. Unless he can bring himself within some broadly defined exception to general rules, the law deliberately leaves his idiosyncrasies out of account, and peremptorily assumes that he has as much capacity to judge and to foresee consequences as a man of ordinary prudence would have in the same situation. In the language of Tindal, C. J., 'Instead, therefore, of saying that the liability for negligence should be coextensive with the judgment of each individual, which would be as variable as the length of the foot of each individual, we ought rather to adhere to the rule which requires in all cases a regard to caution such as a man of ordinary prudence should observe.' *Paughan v. Menlove*, 3 Bing. N. C. 468, 475; S. C. 4 Scott, 244 (English).

"If a physician is not less liable for reckless conduct than other people, it is clear, in the light of admitted principle and the later Massachusetts cases, that the recklessness of the criminal no less than that of the civil law must be tested by what we have called an external standard.

"We admit that, if the thing is generally supposed to be universally harmless, and only a specialist would foresee that in a given case

(Continued on next page)

EQUITY:

The enormously important contact of equity with medical practice lies in the possibility of using the injunction to stop improper practice. Exactly what circumstances warrant the grant of this drastic remedy is important enough to merit detailed consideration in an independent paper. Here, consideration must be confined to some of the more salient principles.

In each new controversy, one will do well to answer the following questions in attempting to decide whether an injunction will be granted.

A. What is the exact nature of the controversy in terms of the parties involved and the objectives sought to be gained?

1. If the aggrieved person is a patient already injured by the defendant's malpractice, the proper remedy is a civil action at law for compensatory damages. The injunction is peculiarly useful and finds its fit application in preventing future wrongs or breaking up some repeated chain of wrongful acts. Accordingly, in case of the typical malpractice claim, the remedy at law is adequate, and equity will decline jurisdiction; the dereliction is past rather than prospective, and the injunction is wholly inapt.

2. If the moving complainant is a physician who seeks by injunction to restrain what he considers improper medical practice by the defendant, one meets at once the question of what basis of equitable jurisdiction can be made out.

The early and rather misleading case of *Merz v. Murchison* (6th Circuit Court, Ohio, 1908), 30 Circuit Court Reports, 646, in some quarters has created unfortunate confusion and doubt as to the power of equity to intervene by injunction. In that case the facts were as follows: the plaintiff, X, a licensed physician and surgeon, sought to enjoin alleged unlawful and unfair competition by the defendant, Y, a chiropractor who had no license under the medical practice act of Ohio. The evidence showed that Y was under indictment in a proceeding by the state for alleged violation of the statute.

The court held that the plaintiff's bill for an injunction must be dismissed because he could not show a property right invaded or any intent under the medical practice act to vest rights of action in private physicians. The court said:

"There appears to be no serious contention by counsel for plaintiff but that his claim to the equitable interposition of this court is based mainly, if not wholly, upon this statute. Without legal provisions for the examination and licensing of physicians and surgeons, one person would be as free as another to practice these professions without interference from the courts.

(Footnote 4 continued)

it would do damage, a person who did not foresee it, and who had no warning, would not be held liable for the harm. If men were held answerable for everything they did which was dangerous in fact, they would be held for all their acts from which harm in fact ensued. The use of the thing must be dangerous according to common experience, at least to the extent that there is a manifest and appreciable chance of harm from what is done, in view either of the actor's knowledge or of his conscious ignorance. And therefore, again, if the danger is due to the specific tendencies of the individual thing, and is not characteristic of the class to which it belongs, which seems to have been the view of the common law in regard to bulls, for instance, a person to be made liable must have notice of some past experience, or, as is commonly said, 'of the quality of his beast.' 1 Hale P. C. 430. But if the dangers are characteristic of the class according to common experience, then he who uses an article of the class upon another cannot escape on the ground that he had less than the common experience. Common experience is necessary to the man of ordinary prudence, and a man who assumes to act as the defendant did must have it at his peril. When the jury are asked whether a stick of a certain size was a deadly weapon, they are not asked further whether the defendant knew that it was so. It is enough that he used and saw it such as it was. . . . So here. The defendant knew that he was using kerosene. The jury have found that it was applied as the result of foolhardy presumption or gross negligence and that is enough.

The remaining questions may be disposed of more shortly. When the defendant applied kerosene to the person of the deceased in a way which they have found to have been reckless, or in other words, seriously and unreasonably endangering life according to common experience, he did an act which his patient could not justify by her consent, and which therefore was an assault notwithstanding that consent. *Commonwealth v. Collberg*, 119 Mass. 350. See *Commonwealth v. Mink*, 123 Mass. 422, 425. It is unnecessary to rely on the principle of *Commonwealth v. Stratton*, 114 Mass. 303, that fraud may destroy the effect of consent, although evidently the consent in this case was based on the express or implied representations of the defendant concerning his experience.

As we have intimated above, an allegation that the defendant knew of the deadly tendency of the kerosene was not only unnecessary, but improper. *Regina v. Packard*, C&M 236. An allegation that the kerosene was of a dangerous tendency is superfluous, although similar allegations are often inserted in indictments, it being enough to allege the assault, and that death did in fact result from it. Exceptions overruled."

"A court will not interfere with the practice of medicine or surgery by one person on the petition of another, merely because such practice is unskilful and patients may be injured rather than benefited thereby, nor because the patients are deceived by false claims of skill.

"The plaintiff relies on what he earnestly urges is a property right to practice medicine and surgery conferred on him by his statutory license, and an interference with that property right by the unlawful competition of a person unlicensed.

"Probably the statute rather qualifies rights heretofore existing than confers new ones. . . . The circle of competition may be narrowed by excluding unlicensed competitors, but that is not the purpose of the law.

"The statute, which is designed to protect the public, contains certain penal provisions in behalf of the public. Can a private individual invoke it in his own behalf and in a civil proceeding prevent the very acts which the statute makes criminal?

"We quote this language from an opinion by Lord Mansfield, 2 Burr. 803: 'The rule is certain that where a statute creates a new offense, by prohibiting and making unlawful anything that was lawful before; and appoints a specific remedy against such new offense (not antecedently unlawful) by a particular method of proceeding, this must be pursued and no other.' . . . It is the judgment of the court that plaintiff's petition be dismissed."

But note: this decision does not preclude the right of one practitioner to enjoin acts of another which constitute torts under the established principles of unfair competition, without necessary reliance on infringement of a medical practice act—such, for instance, as when Y initiates a campaign to wean away X's patients by fraudulent statements or devices or by certain types of simulation endeavors to confuse the public into believing he is X and thus to exploit X's good will by diverting patients from their intended destination. Such "simulation" cases are not so apt to arise in respect to professional practice as in commercial activities in which complaints have given rise to lively litigation of large volume.

The fact is that the individual practitioner's right to injunctive relief depends on the necessary proof of some economic interest in the nature of a property right which has been infringed by conduct amounting to unfair competition.

To redress unfair competition, equity traditionally has been prone to require proof of such a property right, and the question at once presented is whether the license of a physician fills such requirements. In the *Merz* case, and indeed in a minority of more recent decisions from a small number of states (for example, *Drummond v. Rowe*, Supreme Court of Appeals of Virginia, 1931, 156 S. E. 442), the view is taken that licensing statutes are for the exclusive benefit of the public and confer no vested interest on the licensee sufficient to give him standing in equity. In this initial problem of arriving at the "statutory intent," the majority view and more acceptable construction is that licensure statutes have a dual purpose: to protect the public against incompetent practitioners and to protect qualified practitioners from the economic inroads of unlicensed competitors. According to the majority view, then, the license confers on the holder a franchise in the nature of a property right which equity has jurisdiction to protect.

Indeed, the authority of the *Merz* case has been impaired, if not altogether destroyed, by the recent case of *Dworken v. Apartment House Owner's Ass'n of Cleveland* (Court of Appeals of Ohio) 1931, 176 N. E. 577. In this case it was held that a license to practice law is an exclusive, valuable privilege sufficient to enable an attorney, proceeding by a "class bill" for himself and all other attorneys, to secure the equitable relief of injunction to protect his quasiproperty right from encroachment by the unlicensed practice of the corporate defendant.

In the *Merz* case, which the court distinguishes, the plaintiff sued for himself alone and did not prove that the unlicensed defendant attracted clients which otherwise would have resorted to him.

The difficulty of showing that the improper practice has prevented a patient from resorting to the particular plaintiff is met by bringing a "class bill" in equity in which the plaintiff seeks the injunction for himself and for other physicians similarly situated.

As the Supreme Court of Appeals of West Virginia said in *Sloan v. Mitchell*, 1933, 168 S. E. 800:

"The right of a licensed physician and surgeon to practice his profession is a valuable franchise in the nature of a property right to protect which he may sue in equity in the interest of himself and other physicians similarly situated, to enjoin a person from encroaching upon said right by engaging in the practice of medicine and surgery without a state license.

"A court is not powerless to prevent the doing of an act involving encroachment upon valuable franchise rights of others merely because such conduct is denounced as a public offense."

This right of the licensed practitioner, springing from concepts of unfair competition, to be protected in equity logically is limited to such conduct as represents an improper or unlawful diversion of patronage, as when the defendant unlawfully because unlicensed, takes economic benefits from the pool of medical practice (*Sloan v. Mitchell*, supra) or advertises, contrary to law, as in *Eisensmith v. Buhl Optical Company* (Supreme Court of Appeals, W. Va.) 1934, 178 S. E. 695 or permits himself to be used to put corporations or other unqualified persons directly or indirectly in competition with individual practitioners, as in *Ezell v. Ritholz* (Supreme Court of South Carolina) 1938, 198 S. E. 419.

When patronage has been rightfully procured and the defendant inflicts injury by negligent diagnosis or treatment, the patient has his proper remedy by a civil action for damages resulting from the malpractice; fellow physicians have no standing to secure an injunction because no unfair competition is involved.

When, however, a licensed physician uses an unlawful mode of practice to divert patronage from his competitors, a very different case may arise. Thus, when pregnant women are induced by known practices of a licensed physician to resort to him for abortions without therapeutic cause, the economic interest of respectable obstetricians in the same community in procuring normal deliveries at term is infringed, unfair competition exists and the affected physicians are entitled to proceed in equity by a class bill for injunctive relief.

By the sounder view, now entertained by a majority of courts, in all the situations discussed in this section the existence of penal statutes carrying penalties which might be invoked by criminal prosecutions will not defeat the equitable jurisdiction provided the plaintiffs show in their bill that the legal remedies so provided are inadequate to protect their interests and break up the wrongful conduct (*Ezell v. Ritholz*, supra). In this respect, there is a growing tendency to depart from the holding of the *Merz* case that the creation of a specific criminal law remedy against unlicensed practice by implication excludes resort to any other remedies.

To summarize:

(1) Suits in equity by individual practitioners for injunctions against improper practice depend essentially on a showing of unfair competition. They should therefore be brought by active practitioners in the same community engaged in such field of practice or specialty as makes it clear that the improper practice of defendant impinges on their economic interests.

(2) Such a suit should be in the form of a "class bill" for the benefit of the plaintiff himself and of all physicians similarly situated. Such suits in some states may properly be brought by medical societies or state medical boards when a valid authorization by individual practitioners or by statute constitutes them the "class" representative.

(3) When unfair competition can be shown, it is no necessary part of the plaintiff's proof that the defendant's conduct constitutes malpractice in respect to the patients treated. He need not show that the treatment was ignorant, unskilful or negligent, for in this type of case he does not derive his rights of action through the patient.

(4) Lacking the essential elements of unfair competition necessary to show unfair or unlawful diversion of patronage, the mere fact that the defendant's conduct was ignorant, unskilful or negligent so as to confer rights of action on his patients for injuries received in the course of treatment will not create equitable rights in fellow physicians.

3. If the moving complainant is the state, which seeks by a bill in equity to enjoin improper or unlawful practice by defendant, the basis of jurisdiction is different.

Logically, unless authorized to do so by express statute, the attorney general is not the proper plaintiff to protect the private property rights of individual practitioners against unfair competition. But he is usually the proper person to bring a bill on behalf of the state.

The state makes out its title to equitable relief by virtue of its sovereign interest in protecting the health and welfare of its citizens. Historically, equity has always exercised jurisdiction in proper cases to abate a public nuisance by issuing prohibitory injunctions. The more alert courts have hastened to press this doctrine into service in the present connection. Since equity abated nuisances at common law and since in equity there was no right to jury trial, this adequately meets the protest that the defendant is entitled to have the state restricted to a criminal prosecution under the penal provisions of licensure statutes in order to preserve his right to trial by jury.

Without completely exhausting the subject, the salient principles which should control the position of the state may be summarized as follows:

(1) The title of the state to injunctive relief against improper or unlawful practice rests on its right to protect public health, morals, safety and the collective welfare, rather than on the necessary showing of an invaded property right.

As Chief Justice Crane, of the New York Court of Appeals, said in *People v. Laman* (Court of Appeals, N. Y.) 1938, 14 N. E. (2d) 439, a suit by the attorney general to enjoin Laman from practicing medicine unlawfully, without a license:

"Although invasion of property rights or pecuniary interests is emphasized in some of the earlier cases as a basis for equitable interference, there appeared later a recognition that public health, morals, safety, and welfare of the community equally required protection from irreparable injury."

(2) Of the several theories advanced to sustain the state's title to equitable relief, the most satisfactory is that which proceeds on the theory that a continuing unlawful practice by the defendant may constitute a public nuisance which the state may abate by injunction in equity.

A few courts have gone so far as to hold that mere practice without a license is a nuisance in itself, without necessity of showing that the unqualified practitioner is so incompetent that his practice imperils the health of those he treats (*Kentucky State Board of Dental Examiners v. Payne* [Court of Appeals of Kentucky, 1926] 281 S. W. 188; *State v. Anderson*, 6 Tenn. Civ. App. 1). This view is unsound, for at common law, before the passage of licensure statutes, such practice was no nuisance; and in proceeding on the common law theory of public nuisance rather than by criminal law indictment under the licensure statute the state must show actual or imminent danger to the public. It is so held by the majority view.

As Chief Justice Ross said in *State ex rel. La Prade, Atty. General v. Smith* (Arizona Supreme Court) 1934, 29 Pacific (2d) 718:

"The practice of medicine and surgery is not per se a nuisance. A license does not add to one's qualifications. It only shows that the holder thereof has complied with the law. His skill and ability as a practitioner would be the same before as after he secured the license. Of course, one having a license from the proper authorities would be presumed to be qualified to practice, and, in a criminal prosecution for violating the law requiring a license before practicing, the absence of such a license would give rise to an unrebuttable presumption of disqualification. But in a proceeding of this kind, based upon acts alleged to be injurious to health by reason of unskilfulness, ignorance, and incompetency, it is incumbent upon the state to make out its case." (Accord: *People v. Laman* (Court of Appeals, N. Y.) 1938, 14 N. E. (2d) 439.

Thus, the right of the state to enjoin unlawful practice derives from a necessary showing of actual or prospective injury to patients from the ministrations of an incompetent defendant. The burden of proof is both greater and different than that which rests on the individual practitioner. The right of the latter to an injunction depends on the protection of his quasi-property right against the wrongful invasion of unfair competition, a tort in which injury to the patient is no necessary ingredient.

(3) In a majority of jurisdictions where the question has arisen, the state has been permitted to restrain unlicensed practice through the exercise of ordinary equity jurisdiction over public nuisances, without specific statutory authority so to proceed (*People v. Laman*, supra, and cases cited). In a limited number of jurisdictions, courts have been inclined to restrict the state exclusively to proceeding criminally against the unlicensed physician, on the ground that the penal provisions of the licensure acts impliedly negative the right to use any other sanction (*Dean v. State* [Supreme Court of Georgia], 1921, 106 S. E. 792). Most of these decisions can be explained on other grounds, as for instance, the failure of plaintiff in the *Dean* case to prove the harmful character of the defendant's practice.

The better view holds that the existence of penal sanctions against unlicensed practice does not oust the jurisdiction of equity to grant an injunction provided it is shown that the legal remedy is actually inadequate. This has been well expressed by Chief Justice Crane in *People v. Laman* (Court of Appeals, N. Y.), supra, as follows:

"We have pointed out that the fact a criminal penalty has been imposed for the performance of such acts will not deprive equity of its jurisdiction. In equity the court will consider the criminality of the act only to determine whether, under the particular circumstances, equitable intervention is necessary to give adequate protection to the interest invaded, or whether justice will be best served by relegating the parties to the criminal court. It is not every violation of a statute, even of the statute under consideration, that calls for equitable interference. But where, as here, it is made to appear as a fact that real danger is threatened to the public health by the conduct of the defendant, that irreparable damage to the health of individuals is likely to result, and that criminal prosecution, even if successful, will not give adequate protection to those in danger, a proper case for injunction has been made out.

"As heretofore pointed out, equity interferes, in a proper case, not to punish the individual for his past acts, but to afford more complete protection to the complaining party by enjoining unlawful acts in the future."

B. Has the state legislature, by positive enactment, increased or diminished the inherent equitable jurisdiction of the courts or specified who shall have standing as a party plaintiff to protect private or public medical interests?

The state legislature has the power to alter the scope of equitable remedies in the directions mentioned. Even in jurisdictions where the state is now denied injunctive relief against unlicensed practice, the remedy could be conferred at once by a proper legislative act.

Similarly, many suits for injunction have failed because under proper interpretation of state statutes the bill for injunction was filed by a plaintiff without the right to sue. (See *Bentley v. State Board of Medical Examiners* [Supreme Court of Georgia, 1922], 111 S. E. 379, in which it was held that the statute creating the State Board of Medical Examiners did not expressly or impliedly confer authority on it to proceed in equity for cancellation of a forged license or for an injunction to restrain unauthorized practice.)

In conclusion, equitable remedies have little scope in redressing rights of a patient who has been injured by medical malpractice; to protect the private economic interests of one practitioner against the unfair competition of another, however, equity will grant the powerful remedy of injunction in appropriate cases; and to protect the public as a group from the irreparable injury of incompetent practice by an unlicensed person, equity will likewise grant injunctive relief on the entirely different principle of abating a public nuisance.

It is important to realize that only a small fraction of the complex relations of man to man and of man to property is dealt with by the constitutions, state and federal, and by statutory enactments. The large residue falls within the sphere of "judge-made" law, which is civil, criminal or equitable according to the nature of the transaction. Preserved, published decisions of appeal courts handed down in the same jurisdictions, in absence of positive enactments, control the litigated question

with practically "imperative" authority; such decisions from other jurisdictions are looked to for their advisory value when the question is a novel one. If a trial judge goes against the express precedents laid down by the highest appeal court of his jurisdiction, he may be bold, but he is courting reversal of his judgment and blemish of his judicial record for correct rulings. This fact tends to make of trial judges discreet administrators of settled law. They have the intrinsic power wielded by their brethren of the highest court of appeal, to break with precedent, establish a new principle or declare a statute invalid because unconstitutional. They may openly forsake an old rule in favor of a new one more agreeable to their sense of reason. Yet, as a practical matter, trial judges prefer the security of "settled law," buttressed by precedent, to the risk of reversal. By tacit consent, the delightful exercise of the judicial process to make new law by extending existing doctrines or by departing old dogma is left to the learned court "upstairs," which molds with impunity. Even these highest tribunals, the supreme courts of the several states and of the United States, do not often or readily depart suddenly from the precedent—supported, fundamental trends which protect values congenial to the existing social order.

It is true that the "common law" of which I speak is a system largely self contained and with certain limitations. If it were the only source of law, some of these limitations would make the whole legal system inadequate. More than once a distinguished jurist has given an anemic principle a transfusion of the rich blood of his own genius and enabled it to outlast its natural life. Like a patient with long-standing leukemia, but less justifiably, an ailing legal principle may thus live many years beyond the day of its expected doom.

In large measure, the common law is an introvert despite its occasional effort to appear an extrovert. Judges are house bound. The court, by tradition, is a passive hearer of disputes rather than an investigator of reality. It bids the litigants to bring their irreconcilable disputes to the court house, and by a device of allocating the burden of proof and imposing rules of diligence, it gets the conflicting versions of the parties before it. This practice of making a litigant father his own case may work fairly well so far as an individual dispute goes. But it does not always provide impartial scientific information for proper construction of those legal principles brought into being to enforce or advance a public policy. This is particularly true when the policy itself is not a self-evident interest open to intuitive ascertainment by the quick witted but depends on complicated economic or social facts which need scientific inquiry for their proper exploration. Such formulations are more apt to satisfy when they depend on moral or equitable considerations, for then they may have a surer point of reference. When the rule regulates morally neutral economic or social transactions according to some supposed "public policy," intuition is a less satisfactory point of reference, and the likelihood of error increases. A misconception as to what is sound "policy" may arise, or in advancing a correctly ascertained policy the common law may err in supposing that a certain doctrine will achieve that goal. A judge has no satisfactory official means of discovering the scientific workings of a given rule of law on the body social, particularly in advance of making his rule or extending an old one. He has nothing similar to the medical five or ten year follow-up to see whether a new treatment has the beneficial operation that was hoped for. This

lack of equipment is in part due to the fact that under the philosophy of "division of powers" into judicial, executive and legislative the courts are not intended to function as lawmakers and their actual activity in this sphere is a sub rosa exercise of legislative powers. Secondly, jurisprudence in the United States depends mostly on uniform rules, abstractions one might say, applicable to large series of transactions and large groups of people, rather than on "individualized justice;" only in equity does this latter approach find much scope. Thirdly, the very rationale of "judge-made law" developed at an age when intuitive thinking and exploration of the subjective was an accepted approach and the objective scientific method was but slightly developed.

Thus, the common law has large motor powers, moves with confidence in the external world and yet is singularly lacking in afferent neurones of its own. Perhaps these very self limitations of the judicial system afford some warrant for the extreme reluctance of courts to forsake the ruts of a well traveled road for the smoothness of dimly lighted byways.

Yet, in fairness, one must not judge the common law too quickly or draw inapt comparisons with science. The bric-a-brac or external indicia of "civilization" change more than do the fundamental relationships of man to man, which the law primarily regulates. Today a pedestrian may be run down by a negligent bus driver, while in the days of the Romans he was injured by a negligent archer shooting arrows in a public place. Both wrongs are torts. Today one buys and sells automobiles, while the Romans trafficked in chariots, but both sets of transactions involve the concepts of bargain and sale. Thus, legal concepts are more fundamental and permanent than the objects which they control. The law has been canny enough to keep many of its formulas broad and automatically responsive to changes in social standards. For instance, in the law of negligence, the required "due care" exacted from the actor bespeaks no rigid definition but calls for that degree of care which an average prudent man would have exercised in similar circumstances, taking into account the time and the place.

The very inversion of the common law has helped it achieve a considerable symmetry and harmony among those parts which in logic should have similar treatment. It is not static; over long periods it exhibits conservative but substantial growth. This forward look is helped by the constant ascent of new jurists to the bench, especially those men of large caliber who bring to it a keen knowledge of practical affairs. That the trial judges are conformists and that even the supreme court judges are timid innovators is not wholly to be regretted. A definite and certain rule which is only moderately good but is uniformly applied is generally preferable to a constantly changing, unpredictable rule which professes to be superior. The transactions of society are so complex that predictability has a high value, and the great bulk of law practiced outside the courthouse would lose its prophylactic usages if this certainty were destroyed. Stability of law, security of transactions and the knowledge beforehand of the legal effect of long term undertakings are valued interests of the average citizen.

Therefore, one should not compare the common law to a sulky horse unwilling to pace but should liken it to a watchdog set to guard the gate. It is not so much an initiator of new modes of thought as a powerful preserver of the established order.

It is more the proper sphere of the courts to act as custodians of the law, evolve it gradually with smooth transitions and settle disputes by reasonably certain standards, than to invade too boldly the realm of social reform under the guise of the judicial process.

More efficient means exist for breaking an outworn tradition than reliance on appeal courts. At common law, an injured man could not recover against his employer if he was hurt through the negligence of a fellow employee. No judge would have departed from this principle which such massive precedent had enshrined. Yet the whole creed, with its related doctrines, was swept away by statutory enactment of the workmen's compensation acts. Thus, in legislation one finds the instrument to break bonds with the outworn, to fill defects and to set up a new good. This new value the common law courts will then as doggedly preserve as they did the old doctrine. Constitutional prohibitions serve as a brake on too enthusiastic and radical statutory change which might ill advisedly sweep away important individual liberties. This legislative function belongs to all but is exercised by those who show initiative. In this fact lies a chance for physicians, by vigorously supporting new constructive legislation, to bring science to the aid of law and also to affect the social implications attaching to their profession.

One might say that common law, based on past experience guided by reason, makes society conform to its tenets. By legislation, a dissatisfied society makes law conform to it. When this antithesis is properly maintained, the good in law is preserved and the bad extirpated by planned legislation at one major operation, much as a surgeon amputates a gangrenous leg.

In administrative agencies (such as the Interstate Commerce Commission, which regulates public carriers; the Board of Tax Appeals; the Patent Office; the Labor Relations Board and the Securities Exchange Commission) expert boards are used to surmount the jury "blindspot" for technical evidence. These administrative bodies wield quasijudicial powers and take over the jury role of fact finding. Great speed is introduced, and legal formalities are reduced to a minimum. Yet there is some slight loss of the impressive certainty and predictability of the common law so far as the quasijudicial rulings are concerned.

Correctly viewed, law must be taken as the summation of those integrated mechanisms by which lives are regulated and disputes settled.

Whether he is a lawyer or a layman, any one who has a question of law before him should ask:

1. Is it affected by the constitution (state or federal), that is, the supreme law?

2. Is it dealt with by statute, and if so, what are the provisions of the act? Are these constitutional? How have the common law courts interpreted the language used?

3. If there is no statute, the question must be subject to common law. Is it a civil common law action for compensation, a criminal common law action by the state or a proceeding in equity? What is the current law in the particular jurisdiction as established by the preserved decisions and supporting opinions of the appeal courts?

Again, one must not confuse substantive law with adjective law. The latter deals with matters of procedure, mode of trial and rules of evidence directed to carrying the former into effect. Existing defects in respect to the law of medical malpractice lie more in

these mechanisms of proof making and fact ascertainment in scientific disputes. Part of the trouble lies in the existing rules of evidence and part in the broad constitutional guaranties of the right to trial by jury. These uniformly apply, without differentiation, to all disputed questions of fact, even when they arise on scientific evidence too technical for a lay jury to appraise. One should remain aware that the body of law under consideration is almost wholly common law in origin, that it can be effectually changed only by intelligent legislation directed toward mode of trial and that constitutional guaranties touching on evidence and right to jury trial must be reckoned with in proposed modifications.

With this brief, but necessary, excursion finished, it is possible to turn again to the main theme of this study.

[ED. NOTE.—This is the second of a series of six articles on "Legal Responsibility for Medical Malpractice." The remaining articles in the series will be published in early issues of THE JOURNAL.]

Council on Physical Therapy

THE COUNCIL ON PHYSICAL THERAPY HAS AUTHORIZED PUBLICATION OF THE FOLLOWING CHAPTER, WHICH IS THE SEVENTH OF A SERIES ON AMPUTATIONS AND ARTIFICIAL LIMBS TO APPEAR IN THIS COLUMN. WHEN COMPLETED, THE SERIES WILL BE PUBLISHED IN THE FORM OF A HANDBOOK ON AMPUTATIONS. THE COUNCIL WISHES TO EXPRESS ITS APPRECIATION FOR THE COOPERATION OF ITS GROUP OF CONSULTANTS ON ARTIFICIAL LIMBS. THE COUNCIL IS REPRESENTED BY DRS. FRANK D. DICKSON, HARRY E. MOCK, FRANK R. OBER, S. PERRY ROGERS, PAUL STEELE AND PHILIP WILSON, AND THE ASSOCIATION OF LIMB MANUFACTURERS OF AMERICA IS REPRESENTED BY MESSRS. MCCARTHY HANGER SR., W. E. ISLE, JOSEPH A. SPIEVAK, DAVID E. STOLPE AND J. B. KORRADY.

HOWARD A. CARTER, Secretary.

CHAPTER V.

AMPUTATION IN CONGENITAL AND CHRONIC DISABILITIES

Almost every community contains one or more persons severely crippled by chronic disability, either congenital or acquired, who would be happier, healthier, more useful citizens if relieved of parts of one or more extremities by judicious amputation. A few of these individuals will be found to have refused amputation because of religious or superstitious prejudice against giving up any part of their natural bodies. Others have requested amputation and been refused. In many instances amputation has never been seriously considered as a method of reconstruction and rehabilitation by either patient or surgeon.

The following general factors are to be considered in determining the advisability of amputation for the relief of chronic disability:

1. *Function.*—If one extremity is totally devoid of useful function, and if reconstructive surgery offers no hope of restoration of function, amputation of the entire extremity is usually indicated. A useless arm, if not painful, might be kept for its cosmetic value; but the function of artificial legs is so good that amputation, even by ablation of the entire extremity, should be urged.

2. *Pain.*—Severe pain, if otherwise incurable and if caused within the extremity, is a positive indication for amputation.

3. *Infection.*—Progressive or intractable infection affecting the health or threatening the life of the patient may demand amputation.

4. *Prognosis Following Other Treatment.*—A program of reconstruction involving multiple operations, braces and appliances should not be undertaken without a careful estimation of the result likely to be achieved. Will simple amputation of all or part of such an extremity offer a better prognosis in terms of appearance, comfort and function?

5. *Sites Available.*—Does a sufficient part of the extremity possess useful function to allow amputation at a site of election, with assurance that the remaining stump will function well in a prosthesis? Most chronic deformities are only partially disabling; their amputation is surgery of election. Advice to these patients requires a nice judgment and an awareness of the physiologic requirements described in chapter I. Will even an amputation of the entire extremity, fitted with a "tilting table" leg, provide better function than the disabled member?

6. *Braces.*—Does the patient now require an appliance more unwieldy, unsightly or uncomfortable than an artificial limb? After a proposed program of reconstructive surgery will he still require an appliance?

7. *Age.*—In the choice of procedures for the relief of disability from chronic disease or deformity of an extremity, the age of the patient may be a most important consideration. Children have time to spare. Intelligent reconstructive surgery counts on the assistance of the growth process in many instances. Conversely, the permanent health and function of a stump are better assured if amputation is performed after the growing period has ended.

8. *Economic Status.*—This consideration may be related to the previous one. An adult may choose amputation because he feels he cannot afford the time required for an alternate procedure. Furthermore, free hospital beds for crippled children are plentiful, while free orthopedic beds for adults are extremely scarce.

9. *Consultation.*—Do one or more competent consultants agree that amputation is the procedure of choice?

10. *Wishes of the Patient.*—In an astonishing number of instances the patient affected by a disabling, painful, chronic deformity goes from surgeon to surgeon begging for an amputation. Objection frequently comes from family and parents, who bear neither the pain nor the disability and who may enjoy their martyrdom in caring for the cripple. The wishes of the parents must be considered in the disposition of a minor child. With an adult, the surgeon need concern himself only that the patient understands what he may reasonably expect as a result and that he positively wants the amputation. The indications for amputation for the relief of chronic disability vary with the cause of the deformity. Similarly, limitations are sometimes imposed by the nature of the underlying pathologic condition. Etiologically, most cases will fall into one of four groups:

1. *Congenital Deformities.*—Supernumerary parts, digits or major portions of an extremity should be amputated, the earlier in life the better. Congenital amputations may be fitted with suitable prostheses in early childhood. Reamputation or reshaping of the stump may allow more satisfactory fitting and better function but should be delayed until the end of the growth period if possible. Congenital absence of long bones is a fairly common anomaly. Absence of the tibia results in a short fibula, which usually dislocates at its upper end. The bone becomes bowed and the foot falls into marked varus. The whole lower leg is unfit for weight bearing. If the parents refuse amputation until they are convinced that the outlook is hopeless, an adjustable walking Thomas splint may be worn until amputation is agreed on. Absence of the femur, partial or complete, presents a similar problem. Some modification of the ischial-bearing Thomas splint should be worn well into adolescence. If amputation then appears to be the best solution, a suitable length of bone and soft tissue will be available. Absences of either the radius or the ulna are susceptible to reconstructive surgery and bone grafts and seldom require amputation.

2. *Post-Traumatic Deformities.*—Angulation and overriding of long bones, malalignment of joint surfaces and ankylosis of joints are correctable by reconstructive surgery. Paralysis of part of the musculature and extensive loss of bone are not in themselves indications for amputation. Such conditions as inoperable anesthesia, chronic infection, massive loss of soft tissues and impairment of circulation tend to throw the balance in favor of amputation. Age is a factor here; reconstruction which could not succeed in an adult may be attempted in a child.

3. *Paralysis.*—Amputation is seldom indicated in cerebral palsy. In an exceptional case of monoplegia or hemiplegia the gait may be improved by amputation of an extremely spastic

and deformed lower extremity. The procedure is limited by the fact that such an extremity is affected in its entirety and must be removed in its entirety. In an occasional case of paralysis and deformity from anterior poliomyelitis, benefit may be derived from amputation. The ideal patient is the adult with extensive paralysis of one lower extremity, with severe deformity and shortening, yet with sufficient muscular control of the hip to motivate a good thigh stump. The number of these patients is limited by the rarity of a strong and stable hip in an extremity otherwise so deformed.

4. *Infection*.—Chronic pyogenic osteomyelitis or arthritis is an indication for amputation only when competent treatment over a long period has failed to effect, or to promise, a cure. Such cases are, unfortunately, common enough. An infection which impairs the health or threatens the life of its host is an absolute indication. The elective cases are limited by the availability of a favorable site for amputation through uninfected bone and soft tissues. The use of drugs of the sulfanilamide series before and after amputations should reduce the operative risk in these cases.

Council on Pharmacy and Chemistry

BACTERIOPHAGE THERAPY: II.

IN 1934 THERE WAS PUBLISHED IN THE JOURNAL UNDER THE AUSPICES OF THE COUNCIL A SERIES OF ARTICLES ON THE STATUS OF BACTERIOPHAGE THERAPY, BY DRs. EATON AND BAYNE-JONES. RECENTLY THE COUNCIL FELT THAT SUBSEQUENT DEVELOPMENTS IN THIS FIELD MIGHT WARRANT A RE-STUDY OF THIS SUBJECT. DR. A. P. KRUEGER, PROFESSOR OF BACTERIOLOGY AT THE UNIVERSITY OF CALIFORNIA AND HIS COLLEAGUE, DR. E. JANE SCRIBNER, KINDLY AGREED TO MAKE THE NECESSARY STUDY AND TO WRITE A REPORT. THEIR REPORT, WHICH FOLLOWS, HAS BEEN ADOPTED BY THE COUNCIL AND AUTHORIZED FOR PUBLICATION. IN AUTHORIZING THE PUBLICATION, THE COUNCIL EXPRESSES ITS GRATITUDE TO DRs. KRUEGER AND SCRIBNER FOR THEIR EXCELLENT STATUS REPORT.

OFFICE OF THE COUNCIL.

THE BACTERIOPHAGE

ITS NATURE AND ITS THERAPEUTIC USE

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There appeared in THE JOURNAL during December 1934 a series of articles on bacteriophage therapy by Drs. M. D. Eaton and Stanhope Bayne-Jones.¹ The phases of the subject covered included the experimentally determined facts relating to the bacteriophage phenomenon, the laboratory and clinical evidence for and against the therapeutic usefulness of bacteriophage and the role of so-called antiviral in crude lysates containing bacteriophage. The survey served most effectively as a timely basis for determining the status of commercial phage preparations. In the six years since the report of Eaton and Bayne-Jones was published, much more information about both phage itself and its clinical utility has accumulated; it has been thought advisable therefore to supplement their paper with an analysis of the recent literature, using as a background certain of their summarized material. We propose to consider the following subjects:

1. The nature of bacteriophage and its mode of action on bacteria.
2. The laboratory evidence regarding the therapeutic value of phage in experimental infections.
3. The clinical evidence for and against the usefulness of phage in treating infectious diseases.

From the Department of Bacteriology, University of California Medical School.

1. Eaton, M. D., and Bayne-Jones, Stanhope: Bacteriophage Therapy. J. A. M. A. 103: 1769-1776 (Dec. 8), 1847-1853 (Dec. 15), 1934-1939 (Dec. 22) 1934.

It is not possible to abstract or discuss in this article all the papers that have been published on the subject, and we have selected only those that have seemed to us most significant.

1. THE NATURE OF BACTERIOPHAGE AND THE PHAGE-BACTERIUM REACTION

The phenomenon of bacteriophagy, as carried out under optimal conditions in vitro, is spectacular. One sees a turbid culture representing the accumulated product of several hours of bacterial growth suddenly clear and become sterile. A minute amount of the cleared culture added to a fresh inoculum of organisms in broth induces the same train of events. To early investigators this regeneration of the lytic principle signified at once that the latter was an animate material of some sort and d'Herelle built his entire theory of bacteriophage around the concept that it is a living ultramicrobe, parasitic on bacteria. Other workers developed their own extremely divergent theories, and claims to practically every likely possibility were made long before there existed sufficient factual evidence to arrive at a considered conclusion.

The past eight years has witnessed the gradual accumulation of enough fundamental data to answer with some finality a good many of the most important questions about phage and phage action. Such of this information as we feel has a bearing on the general problem of therapeutic application is summarized here-with:

1. Phage is a protein of high molecular weight.²
2. Under optimal conditions of temperature, pH and so on in the test tube the reaction between phage and the bacterial substrate displays the following characteristics (fig. 1):

(a) Bacterial reproduction follows the normal growth curve just as though no phage were present up to the time lysis (massive dissolution) of bacteria begins.³

(b) Phage production proceeds at a rate considerably faster than bacterial growth;⁴ therefore the ratio of phage to bacteria in a given mixture is constantly rising, the great percentage of phage being attached to the cells.⁵

(c) When approximately 100 phage units per bacterium has accumulated (lytic threshold) lysis of bacteria occurs very rapidly.⁶ For example, a densely turbid suspension containing 100 million cells per cubic centimeter will become crystal clear within one half hour. Lysis consists of actual cellular disruption⁷ accompanied by hydrolytic cleavage of bacterial proteins in some instances.⁸ Granular cellular debris may or may not remain after lysis has gone to completion depending on the nature of the organism lysed.⁹

2. Northrop, J. H.: Concentration and Partial Purification of Bacteriophage, Science 84: 90-91 (July 21) 1936. Northrop, J. H.: Concentration and Purification of Bacteriophage, J. Gen. Physiol. 21: 335-366 (Jan.) 1938. Krueger.¹²

3. Krueger, A. P., and Northrop, J. H.: The Kinetics of the Bacterium-Bacteriophage Reaction, J. Gen. Physiol. 14: 223-234 (Nov.) 1930.

4. Krueger and Northrop.⁵ Krueger and Fong.¹⁰

5. Krueger, A. P.: The Sorption of Bacteriophage by Living and Dead Susceptible Bacteria: Equilibrium Conditions, J. Gen. Physiol. 14: 493-516 (March) 1931.

6. Northrop, J. H., and Krueger, A. P.: The Role of Intracellular Phage in Lysis of Susceptible Staphylococci, J. Gen. Physiol. 15: 329 (Jan.) 1932. Krueger and Northrop.⁷

7. d'Herelle, Félix: Sur un microbe antagoniste des bacilles dysentériques, Compt. rend. Acad. d. sc. 165: 373-375, 1917.

8. Bronfenbrenner, Jacques; Muckenfuss, R. S., and Hettler, D. M.: Study of Intimate Mechanism of the Lysis of Bacteria by Bacteriophage, Am. J. Path. 3: 562-565, 1927. Hettler and Bronfenbrenner.¹⁰

9. Bronfenbrenner, Jacques: The Bacteriophage: Present Status of the Question of Its Nature and Mode of Action, in Jordan, E. O., and Falk, I. S.: The Newer Knowledge of Bacteriology and Immunology. Chicago, University of Chicago Press, 1928, chapter 40, p. 525; in Rivers, T. M.: Filtrable Viruses, Baltimore, Williams & Wilkins Company, 1928, p. 373. Bayne-Jones, Stanhope, and Sandholtzer, L. A.: Changes in Shape and Size of Bacterium Coli and Bacillus Megatherium Under Influence of Lysis: Bacteriophage—Motion, Photomicrographic Analysis of Mechanism, J. Exper. Med. 47: 279-303 (Feb.) 1933.

Substances present in solution during growth of the bacteria may alter the lytic threshold materially. Thus 0.00016 molar manganous chloride reduces the phage-bacteria ratio requisite for lysis to 12 as compared with the normal figure of 100;¹⁰ 0.125 molar sodium sulfate and 0.25 molar sodium chloride have just the opposite effect; they raise the ratio to 320 and 1,000 respectively.¹¹

3. Phage is readily inactivated by a variety of chemical and physical agents.¹² Of particular significance in evaluating clinical usage is the inactivating effect of those products which occur in tissues as a constant part of the phenomenon of inflammation. It is known that blood serum, white cells, bacterial polysaccharides, whole dead bacteria, tissue debris and in fact colloidal suspensions of many sorts exert either a direct destructive action on phage or an indirect inhibitory effect on the interaction of phage and bacteria.

When injected into the body of man or animals, phage serves as an antigen, stimulating the tissues to produce antiphage.¹³ This antibody, as its name implies, also neutralizes phage activity. Likewise, certain normal secretions such as the gastric juice or bile may serve as phage inactivators.

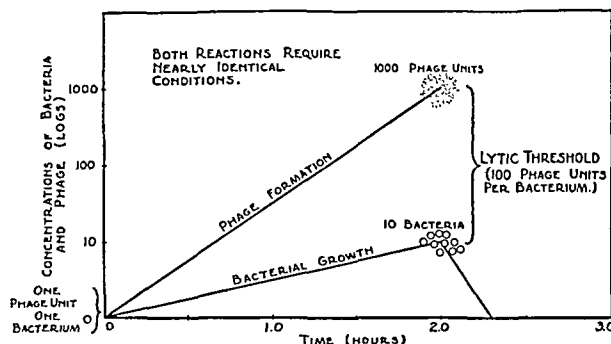
4. Phages exhibit decided limitations in the range of their activity; that is, no single phage is capable of lysing all organisms. Usually it is found that a particular phage will act on one group of bacteria but not on others; e. g., a coli phage will not lyse staphylococci. Even within the group for which it displays activity there occur resistant strains able to grow freely in concentrated phage solution. Apparently phage specificity is linked with the antigenic structure of the bacterial substrate; certain definite chemical components must be present on the cell surface for phage fixation to occur and if these materials are lacking this highly essential initial step in the phage-bacterium reaction cannot be consummated.

Besides having a wide distribution in nature, resistant micro-organisms may develop spontaneously from phage-susceptible forms in the course of the reaction between the latter and phage.¹⁴ In this sense phage is a potent dissociating agent; it can readily split off from a parent bacterial strain daughter cells possessing entirely different structural, biochemical, pathogenic and immunologic characteristics, these alterations being reflected in such diverse and biologically important matters as colonial structure, fermentative capabilities and host invasiveness. Naturally it is to the host's advantage if phage-induced dissociation should result in the production of less pathogenic forms. This interesting possibility will be considered at some length later on.

5. The mechanism of phage formation during the reaction between phage and susceptible cells has been the subject of long controversy. d'Herelle and his followers¹⁴ have held to the theory that phage is a living ultramicrobe parasitic on bacteria and as such develops by means of an independent metabolism at the expense of the host cell. The major opposition to this tenet

has come from Bordet and his school,¹⁵ who advanced the concept that phage is simply a unique by-product of bacterial metabolism possessing the curious property of destroying the cell which formed it. The accumulation of data with the passage of time has strengthened Bordet's stand.

The first accurate quantitative study of the kinetics of bacteriophagy³ clearly implicated bacterial growth as an essential factor in phage production. If susceptible bacteria grew in the presence of phage, more phage was formed; when they ceased reproducing, phage formation came to a halt. This relationship was found to be so reliable that it could be stated in mathematical form, and equations were derived which accurately forecast all the major events of bacteriophagy. Nevertheless, more recent work¹⁶ has proved that bacterial reproduction and phage formation are distinct reactions presenting the deceptive appearance of cause and effect only because they have nearly identical optimums. The rates of the two processes have been shown to have different p_H and temperature maximums; by careful adjustment of these factors, conditions were obtained which inhibited cell division while permitting phage production. Similarly certain concentrations of sodium chloride or sodium sulfate,¹¹ in the medium induced



THE NORMAL PROCESS OF BACTERIOPHAGY IN VITRO

Fig. 1.—Phenomena that comprise bacteriophagy.

the cessation of bacterial reproduction without slowing down phage formation. These observations have been confirmed by Northrop¹⁷ in the course of work on an entirely different phage and bacterium.

The fact is, then, that bacterial growth is not essential for the elaboration of phage, the two phenomena having an apparently intimate connection only because they require much the same milieu. Once established, this conclusion led away from attempts to involve some previously unsuspected aspect of bacterial growth as the prime conditioning factor for phage formation. It seemed reasonable to assume as a working hypothesis¹⁸ that phage, itself a protein with many of the properties of an enzyme, is fabricated in much the same way that other enzymes are; namely, by the cellular synthesis of an inactive precursor which is later changed into the active form. A classic example among the enzymes is trypsinogen, developed by the pancreas in the inactive state and subsequently converted to the enzyme trypsin in the small bowel. Trypsinogen in solution can be

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11. Krueger, A. P., and Strietmann, W. L.: Effect of Sodium Sulfate on the Phage-Bacterium Reaction, *J. Gen. Physiol.* **22**: 131-138 (Nov.) 1938. Scribner, E. Jane, and Krueger, A. P.: The Effect of NaCl on the Phage-Bacterium Reaction, *ibid.* **21**: 1-16 (Sept.) 1937.

12. Krueger, A. P.: The Nature of Bacteriophage and Its Mode of Action, *Physiol. Rev.* **16**: 129-172 (Jan.) 1936.

13. Bordet, J., and Ciucu, M.: Spécificité de l'autolyse microbienne transmissible, *Compt. rend. Soc. de biol.* **54**: 278, 1921.

14. d'Herelle, Félix: The Bacteriophage and Its Behavior, translated by G. H. Smith, Baltimore, Williams & Wilkins Company, 1926.

15. Bordet, J., and Ciucu, M.: Exudats leucocytaires et autolyse microbienne transmissible, *Compt. rend. Soc. de biol.* **83**: 1293-1295, 1920; Le bacteriophage de d'Herelle, sa production et son interpretation, *ibid.* **84**: 1296-1298, 1920.

16. Krueger, A. P., and Fong, J.: The Relationship Between Growth and Phage Production, *J. Gen. Physiol.* **21**: 137 (Nov.) 1937.

17. Northrop, J. H.: Increase in Bacteriophage and Gelatinase Concentration in Cultures of *Bacillus Megatherium*, *J. Gen. Physiol.* **23**: 59-79 (Sept.) 1939.

18. Krueger, A. P.: The Mechanism of Bacteriophage Production, *Science* **86**: 379-389 (Oct. 22) 1937. Krueger and Mundell.²¹

autocatalytically transformed into trypsin by the addition of a small amount of trypsin to it.¹⁹

Experimental search has brought to light satisfactory evidence that an analogous relationship exists in the production of phage. Traces of a substance which reacts with phage to form more phage have been detected in ultrafiltrates of bacterial cultures,²⁰ but the yields were so irregular that a totally different approach had to be evolved. This has taken the form of demonstrating phage precursor in "activated" bacteria;²¹ i. e., cells which have completed a phase of rapid growth and subsequently have been brought to a resting state by storage in salt solution at low temperature. Such cells added to phage react with it extremely rapidly and within two minutes cause the phage titer to rise to levels as high as ten times the original value. The cellular component responsible for this increase in phage content²² is very labile and can be inactivated by several chemicals such as iodoacetic acid and methylene blue in concentrations that are not lethal for the cells themselves.²³ The same thing holds for the heat inactivation of precursor; it proceeds at temperatures too low to injure the bacteria, and the rate of inactivation rises abruptly with small temperature increments. The latter fact is of considerable interest, for in general it is peculiarly characteristic of protein denaturation that small differences in temperature have such an enormous influence on the rate of reaction. The probability follows that phage precursor either contains a protein constituent or, as seems more likely, consists entirely of a protein.²⁴

2. LABORATORY EVIDENCE REGARDING THERAPEUTIC VALUE OF PHAGE IN EXPERIMENTAL INFECTIONS

Phage preparations employed in the treatment of disease are far from being simple solutions of the lytic principle in water. As a matter of fact they contain varying proportions of all sorts of materials too complex to analyze accurately, such as constituents of mediums, the accumulated by-products of bacterial metabolism, substances released by lysis of the microbial substrate, and finally a small amount of phage (at the most 1 or 2 mg. per liter). Certainly the effects observed in

infected animals and human beings following the injection of a crude lysate cannot be attributed to the phage content alone, for all the substances just noted are biologically active and are present in sufficient concentrations to be therapeutically significant. For convenience they may be classified in two groups:

A. Bacterial derivatives serving as antigens and stimulating the production of specific antibacterial immunity.

B. Medium proteins and peptones capable of initiating the common nonspecific protein shock reaction.

There are thus three major possibilities to be considered in analyzing the mechanism of such recoveries as may follow the injection of phage into infected hosts. The results conceivably may be due to cellular lysis *in vivo*, to specific immune phenomena, to nonspecific protein shock or to some combination of these three factors.

Because of the technical difficulties involved but few attempts have been made to treat infected animals or patients with purified phage, and the meager experimental data obtained have led to the conclusion that phage lysis of bacteria in tissues is on a very low level indeed, if it occurs at all. This is in accord with a

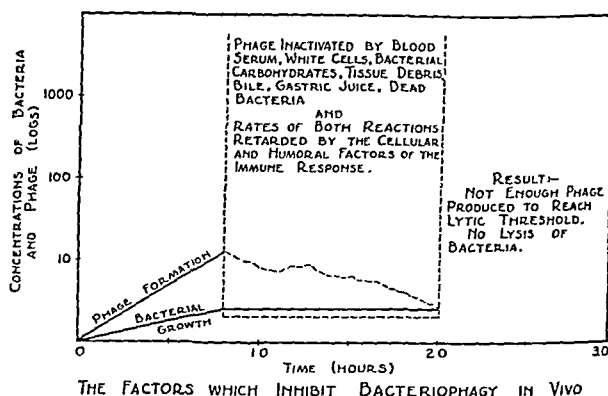


Fig. 2.—Reasons for failure of lytic destruction of bacteria in tissues.

19. Northrop, J. H.: *Crystalline Enzymes: The Chemistry of Pepsin, Trypsin and Bacteriophage*, Columbia Biological Series, New York, Columbia University Press, 1939, no. 12.

20. Krueger, A. P., and Baldwin, D. M.: The Production of Bacteriophage in the Absence of Bacterial Cells, *Proc. Soc. Exper. Biol. & Med.* **37**: 393 (Nov.) 1937.

21. Krueger, A. P., and Mundell, J. H.: Demonstration of Phage Precursor in the Bacterial Cell, *Science* **88**: 550-551 (Dec. 9) 1938.

22. Krueger, A. P., and Scribner, E. Jane: Serial Production of Phage from Intracellular Phage Precursor, *Proc. Soc. Exper. Biol. & Med.* **40**: 51-56 (Jan.) 1939.

23. Krueger, A. P., and Scribner, E. Jane: Intracellular Phage Precursor, *J. Gen. Physiol.* **22**: 699-717 (July) 1939; Inactivation of Intracellular Phage Precursor by Iodoacetic Acid, *Proc. Soc. Exper. Biol. & Med.* **43**: 416-418 (Feb.) 1940. Krueger, A. P.; Scribner, E. Jane, and McCracken, T.: The Photodynamic Inactivation of Phage Precursor by Methylene Blue, *J. Gen. Physiol.* **23**: 705-708 (July) 1940.

24. Krueger, A. P.; McCracken, T., and Scribner, E. Jane: Heat Inactivation of Intracellular Phage Precursor, *Proc. Soc. Exper. Biol. & Med.* **40**: 573-576 (April) 1939.

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Krueger, A. P., and Baldwin, D. M.: The Reversible Inactivation of Bacteriophage by Bichloride of Mercury, *J. Gen. Physiol.* **17**: 499-505 (March) 1934; The Reversible Inactivation of Bacteriophage with Safranin, *J. Infect. Dis.* **57**: 207-211 (Sept.-Oct.) 1935.

Delbrück, M.: Adsorption of Bacteriophage Under Various Physiological Conditions of the Host, *J. Gen. Physiol.* **23**: 631-642 (May) 1940; The Growth of Bacteriophage and Lysis of the Host, *ibid.* **23**: 643-660 (May) 1940.

prediction now some ten years old based on observations of the phage-bacterium reaction *in vitro*.²⁵ Briefly the facts are these: For susceptible cells to undergo lytic destruction there must be available in the immediate environment sufficient phage to raise the phage-bacterium ratio above the critical lytic threshold. This relatively high concentration of phage can be attained theoretically by introducing enough phage directly into the infected area, e. g. a wound, or by injecting a few cubic centimeters into the body, depending on the circulation to convey the phage to the infected site, where, through contact with a susceptible bacterial population, it may develop into the amount required for lysis. There are, however, very real difficulties which stand in the way of realizing either desideratum. In the first place a good lysate contains a mere 1×10^{10} or 1×10^{11} phage units per cubic centimeter (0.001 mg. of phage protein), and even when large amounts are used topically in diseased areas its active strength is seriously reduced by the inactivating influence of nearly every element participating in the phenomenon of inflammation. Dead susceptible bacteria bind considerable quantities of phage and the adsorptive process is irreversible.²⁶ Similarly leukocytes and leukocytic

25. Manwaring, W. H., and Krueger, A. P.: Laboratory-Endorsed Therapeutic Agents, *J. A. M. A.* **93**: 95-96 (July 13) 1929; Limitation of Bacteriophage Therapy, editorial, *ibid.* **96**: 693 (Feb. 28) 1931.

extracts²⁶ are potent phage-inactivating agents. Blood serum,²⁷ the carbohydrate fractions of dead bacteria²⁸ and nonbacterial polysaccharides²⁹ all exert a pronounced inhibitory effect on bacteriophage. It was thought for a time that only the carbohydrates from susceptible bacteria could interfere with phage action, but recent work²⁹ has proved that the polysaccharides of resistant strains may act just as powerfully.

The functional efficiency of phage, therefore, depends on the exact local situation obtaining in the infected tissue and, judging from quantitative experimental evidence, it would be remarkable if under average conditions more than 1×10^7 phage units in each cubic centimeter of the original lysate remained available for action on living organisms. Since the average lytic threshold appears to be in the neighborhood of 100 phage units/bacterium, the maximal number of bacteria which could be lysed by each cubic centimeter of phage preparation would be 100,000, a relatively small portion of the massive bacterial population involved in a serious wound infection. Should the bacterial content of the exudate be moderately greater than this, the nature of phage distribution among the organisms would operate to reduce to a negligible percentage the number of cells receiving enough phage for initiation of lysis. The practical functioning of these influences which keep the concentration of phage in an infected site at a very low level is reflected in the data of Jern, Howes and Meleney,³⁰ who followed the fate of phage introduced directly into localized staphylococcal infections in man. There was no evidence that phage multiplied in the infected areas; on the contrary, substances not specified by the authors inhibited phage action and greatly diminished the amount available in the lesions.

The possibility must be considered that the loss of phage incurred by the factors enumerated might be compensated for through local production of phage by the infecting organisms. It has been stressed already that the optimums for bacterial growth and phage formation are approximately the same,³¹ and that the latter process can be dissociated from the former only by very careful

regulation of experimental conditions. Ordinarily the effective elaboration of phage requires an environment that favors free bacterial growth. In tissues all the humoral and cellular elements of the host oppose the reproduction of the invader and it is difficult to see how any significant regeneration of phage could be expected to occur under these generally adverse circumstances. As a further detriment to the lytic destruction of bacteria even when phage is repeatedly applied there ensues a continuous dilution of phage by plasma diffusing through the walls of small vessels in the inflamed area. This phenomenon involves more than physical dilution, for along with the fluid come new stores of the substances which inhibit bacteriophage.

If topical treatment of infected tissues with phage is to follow established precepts, we may suppose that care will be exercised to preserve the infection-limiting reaction which normally develops at the periphery of the diseased site and that the use of excessive pressure will be avoided when the lysate is instilled. Certainly this is to the host's advantage; but if this condition is met there is no reason to assume extraordinary penetration of phage into the deeper tissues and it becomes unlikely that bacterial lysis is more than a remote possibility in anything except the very superficial areas.

The second means of utilizing phage presupposes that a small amount injected hypodermically anywhere in the body will eventually localize in the center of infection.³² Such a concept completely disregards the known facts and implies a chemotactic affinity of fantastic proportions between phage and pathogen. To begin with, the dilution factor is huge; in an average individual receiving a dose of 2.0 cc. of phage, granted that the entire quantity reaches the blood stream, the actual concentration in the circulation could not be more than 4×10^6 phage units per cubic centimeter. This amount would be subject to two additional depleting influences, namely, the phage inactivating substances of the blood stream and the phagocytic capacity of the reticulo-endothelial system. The extent of the depletion is clearly shown in the experimental data of several workers, as for example those of Nungester and Watrous.³² These investigators injected 2.0 cc. of staphylococcal phage intravenously into each of fifteen albino rats (a large dose corresponding approximately to 150 cc. for a human being). The initial phage titer was 5×10^8 phage units per cubic centimeter; in five minutes the blood titer was 2×10^5 phage units/cc. and in two hours only 40 phage units/cc. This means that immediately after the injection of phage the effective blood level is reduced to 0.04 per cent of the original concentration of the lysate. In two hours only one phage particle in ten million of the lysate injected remains in the blood stream. The reticulo-endothelial cells of the spleen and liver appear to function actively in the removal of phage from the circulation and thus prevent it from acting on blood-borne organisms. This clearing effect provides an explanation for the generally negative attempts to treat streptococcal and staphylococcal septicemias in experimental animals with phage.³³

There is no doubt that these depleting factors operate under practical conditions and in our opinion help to

26. Evans, Alice C.: Inactivation of Antistreptococcus Bacteriophage by Animal Fluids, Pub. Health Rep. **48**: 411-426 (April 21) 1933. Colvin, M. G.: Behavior of Bacteriophage in Body Fluids and in Exudates, J. Infect. Dis. **51**: 527-541 (Nov.-Dec.) 1932. Bruynoghe, R., and Maisin, J.: La phagocytose du bactériophage, Compt. rend. Soc. de biol. **56**: 292-293, 1922. Applebaum, Martha, and MacNeal, W. J.: Influence of Pus and Blood on Action of Bacteriophage, J. Infect. Dis. **49**: 225-243 (Sept.) 1931.

27. Gratia, A., and Jaumain, D.: Dualité du principe lytique du colibacille et du staphylocoque, Compt. rend. Soc. de biol. **85**: 882-884, 1921. Zdansky, E.: Kritische und experimentelle Beiträge zur Frage der Wirkungsmöglichkeit der Bakteriophagen im Warmblüterorganismus und in der freien Natur, Ztschr. f. Hyg. u. Infektionskr. **103**: 164-176, 1924. Riding, D.: Acute Bacillary Dysentery in Khartoum Province, Sudan, with Special Reference to Bacteriophage Treatment: Bacteriological Investigation, J. Hyg. **30**: 387-401 (Aug.) 1930. Cowles, P. B., and Hale, W. M.: Effect of Bacteriophage on Experimental Anthrax in White Mice, J. Infect. Dis. **49**: 264-269 (Sept.) 1931. Gratia, A., and Mutsaers, W.: L'action inhibitrice du sérum normal sur la lyse du staphylocoque doré par les bactériophages staphylocoques polyvalents, Compt. rend. Soc. de biol. **106**: 943-945, 1931. Rakieten, M. L.; Zalkin, G., and Rakieten, T. L.: Bacteriophage Inhibition by Serum, Yale J. Biol. & Med. **7**: 541-554 (July) 1935. Evans,²⁶ Colvin,²⁶ Applebaum and MacNeal.²⁷

28. Burnet, F. M., and Freeman, M.: A Comparative Study of the Inactivation of the Bacteriophage by Serum and by Bacterial Polysaccharides, J. Path. & Bact. **35**: 49 (March) 1937. Burnet, F. M.: Agent of Bacterial Extracts, J. Path. & Bact. **38**: 203-209 (May) 1934. Levine, Philip, and Frisch, A. W.: Specific Inhibition of Bacteriophage by Bacterial Extracts, Proc. Soc. Exper. Biol. & Med. **30**: 993-996 (April) 1933. Levine, Philip, and Frisch, A. W.: On Specific Inhibition of Bacteriophage Action by Bacterial Extracts, J. Exper. Med. **59**: 213-228 (Feb.) 1934. Levine, Philip, and Frisch, A. W.: On Absorption of Phage by Bacilli, J. Immunol. **26**: 321-325 (April) 1934. Levine, Philip, and Frisch, A. W.: The Specific Behavior of Bacteriophage, J. Bact. **29**: 67 (Jan.) 1935.

29. Ashenburg, N. J.; Sandholzer, L. A.; Scherp, H. W., and Berry, G. P.: The Influence of Bacterial and Nonbacterial Polysaccharides upon Bacteriophage, J. Bact. **39**: 71-72 (Jan.) 1940.

30. Zaytseff-Jern, Helen; Howes, E. L., and Meleney, F. L.: The Behavior of the Bacteriophage and the Bacteria in the Lesion After the Treatment of Acute Staphylococcus Skin Infections with Bacteriophage, J. Lab. & Clin. Med. **19**: 1257-1271 (Sept.) 1934.

31. Krueger and Fong.¹⁸ Krueger.¹⁴

32. Nungester, W. J., and Watrous, R. M.: Accumulation of Bacteriophage in Spleen and Liver Following Its Intravenous Inoculation, Proc. Soc. Exper. Biol. & Med. **31**: 901-905 (May) 1934.

33. Clark, P. F., and Clark, A. S.: Bacteriophage Active Against Virulent Hemolytic Streptococcus, Proc. Soc. Exper. Biol. & Med. **24**: 635-639 (April) 1927. Eliava, G.: Au sujet de l'adsorption du bactériophage par les leucocytes, Compt. rend. Soc. de biol. **105**: 829-831 (1930). Krueger, A. P.; Lich, R. Jr., and Schulz, K. R.: Bacteriophage in Experimental Staphylococcal Septicemia, Proc. Soc. Exper. Biol. & Med. **30**: 73-75 (Oct.) 1932. Evans.²⁶

explain the failure of certain types of phage therapy. For example, Bronfenbrenner and Sulkin³⁴ in a well controlled study found that the intravenous injection of homologous phage into rabbits suffering from staphylococcal cutaneous infections was of no value. Also Jern and her co-workers³⁰ have made some very pertinent observations on patients suffering from furuncles and carbuncles. After large amounts of phage were injected at a distance from the lesions, only one case in four showed the presence of phage in the exudate. In a separate group of eight patients, satellite furuncles developed around the original lesion being treated with phage. Despite the admittedly close relationship between the primary and secondary sites of infection, no phage could be recovered from the latter.

To recapitulate, the cumulative experimental evidence indicates that lysis of invading organisms by phage within the body of the infected host is entirely dependent on local circumstances in the diseased tissue. These are practically without exception inimical to the process of bacteriophagy, largely because the body fluids and the cells participating in the defense reaction ex-

itself was responsible. However, it is conceivable that the period of heating not only destroyed the phage but also inactivated some other biologically active component, e. g. something analogous to the Vi fraction of the typhoid organism. A more conclusive control using an unaltered crude lysate from which the phage had been removed by differential adsorption would be of aid in settling this point.

It is possible to visualize very special conditions under which the lytic effect of phage might be exercised to good advantage. This would be the case in the superficial layers of a wound and in the outer portion of the mucous lining of a cavity such as the bladder where continued application of strong lysates eventually could bring into the area enough phage to cause lysis. The same would be true of localized infectious processes of the bowel (e. g. dysentery) as distinct from generalized systemic infections of gastrointestinal origin (e. g. typhoid). Conditions in the lumen of the bowel can at times and at certain levels favor the rapid growth of enteric pathogens while presenting little in the way of phage inhibitory agents. If phage introduced by mouth

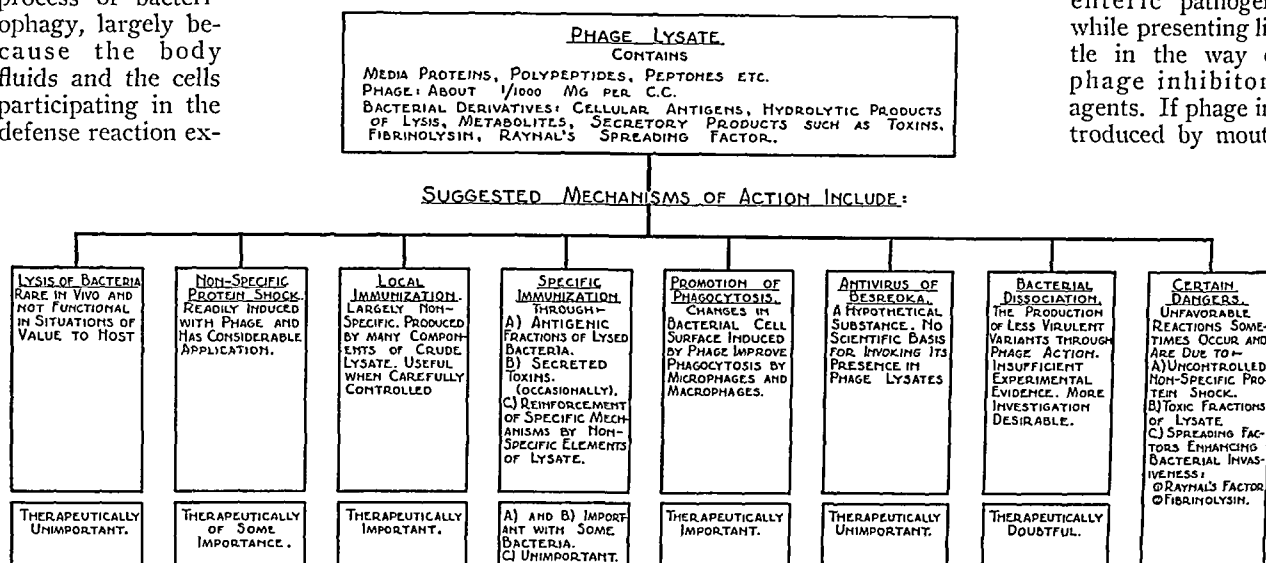


Fig. 3.—Possible mechanisms that have been advanced as a basis for phage action in vivo. The evaluation of the importance of each mechanism represents the opinion of the authors.

ert either a direct inactivating effect on phage or inhibit the interaction of bacteria and phage.

Nevertheless there have been reported a few experimental studies which suggest that actual bacterial lysis may play a role in the therapeutic and prophylactic action of phage. For example, Fisk³⁵ observed that antityphoid phage injected into mice immediately before the administration of typhoid bacilli conferred a very satisfactory protection. Further, phage-inoculated mice remained resistant to infection for as long as twenty-four hours; even when a period of four hours was allowed to elapse following the injection of organisms before beginning treatment with phage, the results were fully as successful. The fact that heating the phage to 70 C. for fifty minutes eliminated the protective action of the lysate would also suggest that the lytic principle

successfully escaped the inactivating effect of the gastric juice it might develop at a considerable rate while in contact with a free-growing substrate and could very well regenerate sufficiently to destroy the bacteria.

Nevertheless it is problematic how much good to the host accrues from bacteriophagy in such zones. The striking forces of the invaders are in the depths of the tissues and hence are not to be thought of as participating in what is undoubtedly a very localized superficial reaction. This contention is supported by the data of Jern, Howes and Meleney.³⁰ In no instance among 110 patients suffering from furuncles and carbuncles did the repeated local use of phage accomplish complete destruction of bacteria in the lesion. Staphylococci persisted even after the slough and exudate had disappeared.

Looking at the phenomenon as a whole, one is forced to conclude that bacteriophagy in vivo is of rare occurrence and that when it does take place bacterial destruction is limited, by virtue of the special environment required, to such locales as preclude phage-engendered lysis of bacteria from playing a major part in recovery. Therefore, with the few exceptions already noted, it is not logical to rely on the lytic power of phage in the treatment of disease. From this point of view the

34. Bronfenbrenner, Jacques, and Sulkin, S. E.: I. Effect of Bacteriophage on Cutaneous Staphylococcus Lesions in Rabbits; II. Prophylactic and Therapeutic Effect of Bacteriophage and of Antivirus in Experimental Infections of the Eye; III. On the Nature of the Deleterious Effect of the Local Application of Staphylococcus Bacteriophage, *J. Infect. Dis.* 65: 53-72 (July-Aug.) 1939; Deleterious Effects of Local Application of Staphylococcus Bacteriophage, *Proc. Soc. Exper. Biol. & Med.* 32: 1419-1422 (June) 1935.

35. Fisk, R. T.: Protective Action of Typhoid Phage on Experimental Typhoid Infection in Mice, *Proc. Soc. Exper. Biol. & Med.* 38: 659-660 (June) 1938.

emphasis in the literature on phage therapy has been misplaced. As a rule the feature most heavily stressed has been the necessity for employing a specific phage, i. e. one active for the causal agent involved, while little has been said about the need for bringing into play a sufficient quantity of phage. Yet it is clear that not only must the qualitative criterion of specificity be met, but in order to manifest activity the phage has to be present in adequate quantity.

The exclusion of direct lytic action of invading organisms as a significant mechanism in the therapeutic action of crude lysates leaves four further possibilities to be considered:

A. *The Development of Less Virulent Variants from Pathogenic Organisms Through Phage-Induced Dissociation.*—The great majority of disease-producing bacteria normally tend to form smooth-surface (S) colonies when grown on solid mediums, but through exposure to an unfavorable environment rough (R) colonies may appear. These are split off from the parent strain in response to the stimulus provided by a great variety of injurious agents, e. g. numerous chemicals, immune serum and bacteriophage. The constituent organisms are apt to be altogether different from the original ones in size, shape, motility, surface structure, antigenic composition, biochemical activities and virulence. Since the R variants are usually less virulent than S strains and are more readily destroyed by the body's defense systems, the dissociation might be very much to the infected host's advantage if it could be made to operate at will. While R forms emerge at times during normal recovery from infection, they are not a universal accompaniment of healing and, as yet, many of the factors which lead to their dissociation from the invading strain in vivo are unknown.

It is not especially difficult to produce less virulent variants from S strains in vitro by means of phage action, but no satisfactory statistical survey has been conducted to determine the effectiveness of phage treatment in initiating the phenomenon in the patient. Some indication of such action was found by Gowen³⁰ and Jern, Howes and Meleney³⁰ during the studies already referred to. They noted that repeated applications of phage to boils or carbuncles altered the cultural characteristics of the bacteria and caused them to form moth-eaten, degenerative and roughened colonies, sometimes with changes in chromogenic and hemolytic properties. Here again the quantitative aspects of phage therapy are seen to be important, for the dissociative effect tended to disappear within forty-eight hours unless topical treatments were repeated. This coincides with Jern's report that, "while the bacteriophage persisted in the lesion and still had some destructive action after twenty-four hours, it did not increase in potency as it did in the test tube. Instead, it grew progressively weaker."

To keep sufficient phage in the area so that bacterial dissociation can be continuously maintained, the phage supply must be renewed from time to time. Even then it is difficult to find any correlation between the successful induction of dissociation and a favorable host response. In Jern's series, 82 per cent of the patients showing no detectable variants in wound cultures were improved by phage treatments, while only 33 per cent of the patients whose cultures revealed staphylococcus dissociation were clinically benefited.

One must admit that this phase of phage therapy offers theoretical possibilities worthy of further investigation. While it may well prove to constitute a very limited approach, it is more conducive to a healthy state of mind in evaluating the results which follow the use of phage than is the overstressed dependence on lytic destruction of bacteria *in situ*. At the same time it should be pointed out that dissociation can take the opposite direction and sometimes may lead to the formation of more virulent bacterial strains. Madison³⁷ has found this to be true of variants arising through phage action on the hemolytic streptococci. The tissue invasiveness of the original organism was shown to parallel its capacity to secrete the fibrin-dissolving principle, fibrinolysin. Phage induced variants formed ten times the concentration of fibrinolysin produced by the parent strain and consequently were potentially more dangerous to the host.³⁸

B. The Augmentation of Phagocytic Efficiency Through the Stimulus Supplied by Phage.—The intravenous injection of a great array of entirely nonspecific materials present in culture mediums, bacterial filtrates and the like is known to produce leukocytosis (see section D), so it is not surprising that phage lysates can accomplish the same end. However, phage itself as distinct from the various complexes of the crude lysate, appears to exert a very interesting and highly specific effect in enhancing both the mobilization of leukocytes and their phagocytic capacity. To summarize the essential facts:

1. The intravenous injection of phage and susceptible staphylococci into rabbits causes a more pronounced leukocytosis than the injection of either susceptible organisms alone or phage mixed with resistant staphylococci (Nelson³⁹).

Phagocytosis of susceptible bacteria in vitro is promoted by the presence of phage, while phage has no effect on the phagocytosis of resistant strains (Smith⁴⁰ and Nelson³⁹). More recently MacNeal, McRae and Colmers⁴¹ have shown that this stimulation occurs not only in aqueous mediums but in blood serum as well and that, during the first hour after the intravenous injection of phage, phagocytosis of susceptible organisms in vivo is increased. Hoder⁴² reports that phage-resistant strains of the staphylococcus, typhoid bacillus, dysentery bacillus and colon bacillus which arise during the course of the phage-bacterium reaction usually are more readily phagocytized than the normal phage-susceptible strains.

3. The phagocytic efficiency of the reticuloendothelial system is raised when rabbits suffering from staphylococcal septicemia are given intravenous injections of homologous phage (MacNeal, Frisbee and Slavkin).⁴³

It would seem that the attachment of phage to an organism so alters the surface composition that phagocytosis by macrophages and microphages takes place more readily.

37. Fraser, Frieda H., and Madison, R. R.: Fibrinolytic Titer of Scarlatinal Streptococcus, Proc. Soc. Exper. Biol. & Med. **33**: 307-309 (Nov.) 1935.

38. Contraindicated Bacteriophage Therapy, Current Comment, J. A. M. A. **111**:536 (Aug. 6) 1938.

39. Nelson, A. R.: Effect of Bacteriophage upon Phenomena of Leukocytosis and Phagocytosis, *J. Immunol.* **15**: 43-64 (Jan.) 1928.

40. Smith, G. H.: Bacteriophage and Phagocytosis: Effect on Resistant and Dead Bacteria, *J. Immunol.* **15**:125-140 (March) 1928.

41. MacNeal, W. J.; McRae, M. A., and Colmers, R. A.: Further Observations on Bacteriophage Action in Presence of Blood, *J. Infect. Dis.* **63**: 25-33 (July-Aug.) 1938.

42. Hoder, F.: Der Einfluß von Bakterien auf die Phagozytierung von Bakterien; therapeutischen u. experimentellen Bakteriologie.

Therap. S. 4: 46-61 (Dec. 31) 1934.

43. MacNeal, W. J.; Frisbee, F. C., and Slavkin, A. E.: Mechanism of Bacteriophage Action in Staphylococcus Bacteremia, Proc. Soc. Exper. Biol. & Med. 30: 12-14 (Oct.) 1932.

36. Gowen, G. H.: Correlation of Bacteriological and Clinical Course in Phage Therapy of Chronic Furunculosis of Face, Illinois M. J. 70: 82-86 (July) 1936.

C. *The Stimulation of Specific Antibacterial Immunity in the Host by Antigenic Fractions of Lysed Organisms.*—In the preparation of a lysate, susceptible bacteria are grown in broth to which the appropriate phage has been added. As a terminal event, in the reaction from 10 million to 2 billion bacteria per cubic centimeter are disrupted, a portion of the released bacterial substance consisting of specific antigens. Unfortunately a certain percentage of protein, varying with the nature of the bacterium, is hydrolyzed during lysis and consequently loses its immunity-provoking capacity. Northrop⁴⁴ has found that lytic disruption of *Staphylococcus aureus* is attended by loss of all the native protein, while intact protein appears in solution during the lysis of *Bacillus coli* or *B. megatherium*. When the residual intact fraction is injected hypodermically it functions actively as a vaccine and evokes formation of characteristic humoral antibodies. Unquestionably many bacteriophage preparations are potent immunizing solutions (Arnold and Weiss,⁴⁵ Maslakowetz and Kasarnowsky,⁴⁶ Compton,⁴⁷ Flu⁴⁸ and others) but active immunity produced in this way takes considerable time to develop and is not detectable ordinarily until four or five days have elapsed. Consequently, specific immunization with such cellular antigens as are not destroyed during lysis is not a weapon for immediate use in an acute infection. Additional studies of the type undertaken by Hetler and Bronfenbrenner⁴⁹ and Northrop⁴⁴ are needed to measure the extent of protein hydrolysis occurring when lysates are made from a wide range of pathogenic forms.

There are some data to indicate that phage lysates make particularly good immunizing agents and that their protective effect is exerted more rapidly than that of an orthodox vaccine (Larkum⁵⁰). This is not unreasonable, for the antigenic materials of a lysate are already in solution and need not be broken down by preliminary cellular digestion to become available for immunization. Furthermore, toxin-producing organisms, e. g. the staphylococcus, can secrete into the medium a significant quantity of toxin during preparation of a lysate (King, Boyd and Conlin,⁵¹ Holm, Anderson and Leonard⁵²). When injected, the toxin stimulates the formation of antitoxin and the latter may furnish signal aid to the infected patient, provided of course the situation is not too acute and there is enough time for the specific immune mechanism to be brought into play (Larkum⁵³). Occasionally the toxin fraction is large enough to produce severe reactions in the host.⁵¹

A well recognized phenomenon in experimental bacteriology is the induction of immunity confined to a limited tissue area and not shared by the body as a whole. This local immunity appears subsequent to the topical application of various culture filtrates and whole cell suspensions but the best of the available evidence suggests that the immunity is not specific and that non-specific factors are of primary importance in its production; consequently it will be discussed in the next section.

D. *The Stimulation of Specific or Nonspecific Immune Mechanisms of the Host by Proteins, Peptones and So On of the Crude Lysate.*—It is a curious fact, but a satisfactorily verified one, that the injection of a great variety of nonrelated substances can occasion at times a rise in titer of narrowly specific humoral antibodies. Among the provocative agents are included such materials as proteins, polypeptides, metallic salts and all sorts of colloids, which not only are mutually unrelated but bear no antigenic relationship whatever to the antibody whose titer increases. This seems at first hand contradictory to the tenets of the modern school of immunology, for one of its major accomplishments has been the exhaustive elucidation of chemical specificity as originally envisioned by Ehrlich. The accumulated data have proved that the specific reactive groups of an antibody are a direct reflection of the structural configuration of the antigen used to produce it. Nonetheless it is true that completely nonspecific agents may elicit the following types of response:

1. Enhancement of specific antibody production when administered early in the immunizing program.
2. Increase in the normal antibody content of the blood stream (normal antibodies are those present in a nonimmunized and previously uninfected individual and cannot be related definitely to any previous contact of the host with the corresponding antigen).
3. Secondary stimulation of antibody production when the nonspecific agent is used after the primary specific immunization has attained a maximum.

These host reactions are not qualitatively or quantitatively comparable to the intensive or lasting antibody response which takes place after the injection of specific antigen, nor can they be relied on to follow with regularity the use of any particular nonspecific material. They fit into the general theory of serologic specificity as minor and undependable reinforcements of the basic specific reactions.

Unpurified phage lysates carry with them a notable amount of complex medium constituents, cellular derivatives, metabolites and the like, all of which may function as augmenters of immunity in the sense just defined. It is unlikely that they account for any considerable degree of therapeutic efficiency on the part of the lysate.

Besides supplying a negligible stimulus to the body's specific immune system, the agents enumerated are responsible for an altogether different type of bodily reaction known as nonspecific protein shock.⁵⁴ Within a few minutes after the intravenous injection of serum globulin, albumin, milk, typhoid vaccine and the like, the patient experiences a chill followed by a sharp rise in temperature. The fever breaks in from one to three hours and sometimes remains at a normal level even when the patient's illness previously has run a prolonged febrile course. The subsequent symptomatic relief may be striking. It appears to depend on profound changes

44. Northrop, J. H.: Changes in Protein-Content of Bacterial Suspensions During Lysis and Autolysis, *Proc. Soc. Exper. Biol. & Med.* **39**: 198-202 (Oct.) 1938.

45. Arnold, L., and Weiss, E.: Prophylactic and Therapeutic Possibilities of the Twort-d'Herelle Bacteriophage, *J. Lab. & Clin. Med.* **12**: 20-31 (Oct.) 1926. Arnold, L., and Weiss, E.: Antigenic Properties of Bacteriophage, *J. Infect. Dis.* **34**: 317-327 (March) 1924.

46. Maslakowetz, P., and Kasarnowsky, S.: Versuche der Darstellung von Antigenen mittels bakteriophagen Lysins, *Ztschr. f. Hyg. u. Infektionskr.* **108**: 13-22, 1927.

47. Compton, A.: Sensitization and Immunization with Bacteriophage in Experimental Plague, *J. Infect. Dis.* **43**: 448-457 (Nov.) 1928.

48. Flu, P. C.: Immunisation des rats contre le peste au moyen de suspensions concentrées de bacilles pesteux virulents lysés par le bactériophage anti-pesteux, *Bull. Soc. path. exot.* **26**: 796-806, 1933.

49. Hetler, D. M., and Bronfenbrenner, Jacques: Studies of Bacteriophage of d'Herelle: Evidence of Hydrolysis of Bacterial Protein During Lysis, *J. Exper. Med.* **48**: 269-275 (Aug.) 1928.

50. Larkum, N. W.: Bacteriophage as a Substitute for Typhoid Vaccine, *J. Bact.* **17**: 42 (Jan.) 1929.

51. King, W. E.; Boyd, D. A., Jr., and Conlin, J. H.: The Cause of Local Reactions Following the Administration of *Staphylococcus* Bacteriophage, *Am. J. Clin. Path.* **4**: 336-345 (July) 1934.

52. Holm, A.; Anderson, J. F., and Leonard, G. F.: *Staphylococcus* Bacteriophage Toxoid: An Improved *Staphylococcus* Antigen, *Am. J. Pub. Health* **26**: 1001-1007 (Oct.) 1936.

53. Larkum, N. W.: Production of Antitoxin by Means of Bacteriophage, *Am. J. Pub. Health* **23**: 1155-1158 (Nov.) 1933.

54. Petersen, W. F.: *Protein Therapy and Nonspecific Resistance*, New York, Macmillan Company, 1922.

in the fundamental biochemical process of the body, and Petersen⁵⁵ has collected an impressive array of data exemplifying the manifold expressions these changes may take. Certain of them represent direct augmentation of the bodily defenses against infection. This would be true of the following, to make only a partial list:

1. Leukocytosis preceded by primary leukopenia.
2. Mobilization of serum enzymes.
3. Stimulation of the sympathetic nervous system.
4. Increased lymph flow and lymph volume.

Properly employed, nonspecific protein shock may be a most useful weapon in treating infectious diseases, and phage lysates are well suited to its induction. However, whether elicited by phage or some other nonspecific preparation, it is a modality which must be cautiously and critically applied because of its potentialities for harm to patients whose systems already carry the heavy burdens of illness.

A more limited form of defensive reaction may be involved when lysates are used for topical treatments. The application of killed bacterial cultures, culture filtrates, autolyzed cultures and so on to given tissue areas can confer a material increase in immunity confined to the treated zones without in any way elevating the resistance of the body as a whole. This local immunity is evidently nonspecific, both in origin and in action, for it can be evoked by the application of bacteria-free meat extract broth⁵⁶ and is effective against many different organisms. Fundamentally it seems to depend on the production of a localized inflammatory reaction and concomitant macrophage infiltration.⁵⁷ The latter persists after the inflammation has subsided and its extent is in effect a measure of the tissue's capacity to resist infection, although there is good evidence not only that it is the quantity of cells which is concerned but that in addition there are local factors tending to increase the phagocytic efficiency of the mobilized macrophages.

No single component of the preparations used to bring about local immunity is common to them all, so it follows that the property of raising a tissue's defense barriers is characteristic of entirely distinct chemical entities. Phage lysates in general should be agents *par excellence* for topical use in developing local immunity, since they contain several of the individual materials known to be active in this direction; it is our opinion that much of their therapeutic efficiency can be ascribed to this mechanism.

The results following the instillation of phage or the use of dressings wet with phage are not uniformly favorable. In recently reported experiments Bronfenbrenner and Sulkin⁵¹ applied wet dressings and instillations of phage to staphylococcal skin and eye lesions in rabbits with no result beyond temporary intensification of the inflammatory reaction. They feel that lysates made from invasive strains of staphylococcus are apt to contain the thermostable Reynal's spreading factor and can be dangerous to the host by promoting the influx of bacteria into the tissues. They recommend that noninvasive strains be selected for the preparation of therapeutic lysates.

As a final consideration, there remains the possibility that the antiviral of Besredka⁵⁸ may be implicated in local treatments with lysates. This hypothetical substance is said to be present in the cell-free filtrates of old broth cultures of bacteria and according to Besredka consists of a nonantigenic but toxic bacterial derivative which possesses the admirable property of specifically desensitizing such host cells as are susceptible to the invading bacterium. The induced resistance appears within twenty-four hours after treatment; that is, very much earlier than is the case with classic immune responses. The French medical literature contains voluminous reports on the successful use of Besredka's preparations, and Eaton and Bayne-Jones¹ have summarized some of the typical data. They feel, as we do, that a large amount of the clinical and experimental evidence regarding antiviral is inconclusive and that Besredka's interpretations of his own and others' observations are as yet unproved. Even if we grant that a measure of success has attended the clinical application of antiviral therapy there is no reason to jump to the conclusion that the results depend on a purely theoretical antiviral. They could just as well be due to the presence of the entirely nonspecific agents responsible for production of local immunity.

(The remainder of this article will be published in the next issue of THE JOURNAL)

NEW AND NONOFFICIAL REMEDIES

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED AS CONFORMING TO THE RULES OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR ADMISSION TO NEW AND NONOFFICIAL REMEDIES. A COPY OF THE RULES ON WHICH THE COUNCIL BASES ITS ACTION WILL BE SENT ON APPLICATION.

OFFICE OF THE COUNCIL.

ASCORBIC ACID (See New and Nonofficial Remedies, 1940, p. 530).

The following dosage form has been accepted:

Mead's Ascorbic Acid Tablets, 100 mg.: Each tablet contains 100 mg. of ascorbic acid-N. N. R. equivalent to 2,000 international units of vitamin C.

Prepared by Mead Johnson & Co., Evansville, Ind.

ANTIMENINGOCOCCIC SERUM (See New and Nonofficial Remedies, 1940, p. 427).

The following product has been accepted:

Sharp & Dohme, Inc., Philadelphia.

"Lyovac" Antimeningococcic Serum Natural Polyvalent.—A dried form of antimeningococcal immune natural serum, prepared from the blood of horses immunized with new or recently isolated strains representing four main types of meningococci. It is packaged by the "Lyovac" process, which consists essentially of rapid freezing at a temperature far below the freezing point, together with rapid dehydration under high vacuum without melting or fusing of the original frozen substance. The finished product is sealed under vacuum in the "Vacule" flame-sealed ampoule. Marketed in packages including one double-end "Vacule" ampoule to yield 15 cc. of restored serum, one needle-ampoule containing 15 cc. of distilled water (with preservative: Phenol, 0.35%), one complete intraspinal outfit and one 1 cc. ampoule-vial of Normal Horse Serum (diluted 1:10) as test and desensitizing material.

PENTOBARBITAL SODIUM (See New and Nonofficial Remedies, 1940, p. 128).

The following dosage forms have been accepted:

Capsules Pentobarbital Sodium-Endo, 34 grains.

Prepared by Endo Products, Inc., Richmond Hill, N. Y.

Capsules Pentobarbital Sodium-Endo, 1½ grains.

Prepared by Endo Products, Inc., Richmond Hill, N. Y.

SULFAPYRIDINE (See New and Nonofficial Remedies, 1940, p. 495).

The following product has been accepted:

Sulfapyridine-Abbott.—A brand of sulfapyridine-N. N. R.

Manufactured by Abbott Laboratories, North Chicago, Ill. No U. S. patent or trademark.

Capsules Sulfapyridine-Abbott, 0.25 Gm. (3.85 grains).

Tablets Sulfapyridine-Abbott, 0.5 Gm. (7.7 grains).

Tablets Sulfapyridine-Abbott, 0.5 Gm. (7.7 grains) (bisected).

55. Petersen, W. F.: Nonspecific Protein Therapy, in Jordan, E. O., and Falk, I. S.: *The Newer Knowledge of Bacteriology and Immunity*, Chicago, University of Chicago Press, 1928; chapter 28, pp. 1086-1100.

56. Gratia, A.: Phagocytose et immunité locale, *Compt. rend. Soc. de biol.* 89: 826-828, 1923.

57. Gay, F. D., and others: *Agents of Disease and Host Resistance*, Springfield, Ill., Charles C. Thomas, Publisher, 1935, pp. 448-450.

58. Besredka, Alexander: *Local Immunization: Specific Dressings*, edited and translated by Harry Plotz, Baltimore, Williams & Wilkins Company, 1927.

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SATURDAY, MAY 10, 1941

FEDERAL DRUG REGULATIONS AMENDED

The Acting Administrator of the Federal Security Agency on April 10 announced¹ amendments to the original regulations promulgated in December 1938² under sections 502(f), 505(b) and 505(i) of the Food, Drug and Cosmetic Act. The amended regulation under section 502(f) becomes effective on October 7; the other amended regulations take effect May 10.

The amendment of special interest to the medical profession relates to the regulation previously promulgated under section 502(f), which declares a drug or device misbranded unless its label bears (1) adequate directions for use and (2) adequate warnings against misuse. The application of section 502(f) and the original regulation promulgated under this section to drugs dispensed by physicians or on physicians' prescriptions was discussed in a previous issue of THE JOURNAL by Dr. Theodore G. Klumpp,³ Chief of the Drug Division of the Food and Drug Administration. The amended regulation exempts from compliance with the requirements of clause (1) of section 502(f) a shipment or other delivery of a drug or device (a) if such shipment or delivery is made for use exclusively by or on the prescription of physicians, dentists or veterinarians licensed by law to use such drug or device, (b) if the label of the drug or device bears the statement "Caution: To be used only by or on the prescription of a ——" or "Caution: To be used only by a ——" ["physician," "dentist" or "veterinarian" or any combination of two or all of such words to be inserted], (c) if no representation appears in the labeling of such drug or device with respect to the conditions for which it is to be used, (d) if adequate directions for the use of such drug or device are available in scientific publications or otherwise and (e) in case the drug is not designated solely by a name recognized in an official compendium and is fabricated from two or more ingredients, if its label also bears the quantity or proportion

of each active ingredient. The amended regulation provides that the exemption shall remain valid until all of such shipment or delivery is dispensed on and under labels bearing the directions for use specified in prescriptions of physicians, dentists or veterinarians. The amended regulation, as does the original regulation, also exempts from compliance with the requirements of clause (1) of section 502(f) any shipment or other delivery of a drug or device (1) with respect to directions for common uses if adequate directions for such uses are known by the ordinary individual or (2) if such drug is made for use exclusively in the manufacture of another drug or device and its labeling bears the statement "For manufacturing use only" and contains no representation relative to the effect of such drug or device. Both the amended regulation and the original regulation declare that the exemptions relative to drugs or devices for use only by or on the prescription of a physician, dentist or veterinarian, or for manufacturing use only, shall expire if any part of the shipment or delivery is disposed of for any use other than by or on the prescription of a physician, dentist or veterinarian or for manufacturing use, as the case may be. Any person causing any such exemption so to expire shall be considered as having committed an act of misbranding unless, prior to such disposition, such drug or device is relabeled to comply with clause (1) of section 502(f).

The amendment to the regulation heretofore promulgated under section 505(b) is of no special interest to physicians and so will not be discussed.

The amended regulation under section 505(i) does affect physicians and others engaged in research. It provides that "new drugs" intended solely for investigational use, which under section 505(i) are exempt from the provisions of the act relating to "new drugs," be labeled "Caution: New drug—Limited by Federal law to investigational use" instead of the labeling required under the original regulation "For investigational use only." It requires (a) that the shipment or delivery of such a drug be made only to, and solely for investigational use by or under the direction of, an expert qualified by scientific training and experience to investigate the safety of such drug, (b) that the person introducing such a shipment or delivery into interstate commerce obtain a signed statement from the expert investigator that he has adequate facilities for the investigation and that the drug will be used solely by him or under his direction for purposes of investigation, unless or until an application becomes effective with respect to such drug under section 505 of the act and (c) that the shipper preserve such statement together with complete records showing the date and quantity of each shipment or delivery and make them available for inspection on the request of a representative of the Federal Security Agency until three years after the introduction of such shipment or delivery into interstate commerce. It is provided that the exemption from the provisions of the act relating to new drugs shall

1. Federal Register 6:1920 (April 15) 1941.

2. Federal Register 3:3167 (Dec. 28) 1938.

3. Klumpp, Theodore G.: The Federal Food, Drug and Cosmetic Act as It Applies to Drugs Dispensed by Physicians or on Physicians' Prescriptions, J. A. M. A. 116:830 (March 1) 1941.

become void if the shipper fails to preserve or make available for inspection the investigator's signed statement and the other records required or if any part of such shipment or delivery is used other than in accordance with the investigator's statement.

These regulations result from experience and are planned in the interest of protection of the public health. They do not place any added burden on the medical profession. They provide opportunity for research with new preparations and at the same time protect the public against precipitous exploitation of new drugs.

AVITAMINOTIC DYSENTERY

The Shiga bacillus can function as a harmless saprophyte in the intestine of normal monkeys, according to Day¹ and his co-workers of the University of Arkansas, but it assumes lethal pathogenicity if the animals are placed on a "vitamin M" deficiency diet.

Avitaminotic dysentery was first described by Verder and Petran,² who found that the withdrawal of vitamin A from the diet of monkeys is almost invariably followed by the development of gastrointestinal disturbances. They noted further that the serum of avitaminotic diarrheal monkeys usually agglutinated the dysentery bacillus, though the organism itself could not be detected in the stools till after death. They concluded that, while the dysentery bacillus was directly responsible for the diarrhea, the essential etiologic factor was the vitamin A deficiency.

Langston and his colleagues³ afterward found that monkeys given a diet fractionally deficient in parts of the vitamin B complex usually develop anemia, leukopenia, gingivitis and diarrhea, from which death usually occurs between the twenty-sixth and the one hundredth day. Since the lethal effects were not prevented by riboflavin, thiamine hydrochloride or nicotinic acid given alone or in combination, they concluded that the essential etiologic factor is not identical with any part of the vitamin B complex thus far identified. The essential therapeutic factor, however, is present in dried yeast and in crude liver extract but is absent in most samples of commercially purified liver extract. For the unknown factor that prevents this deficiency which results in diarrhea they suggested the term vitamin M.

Detailed bacteriologic studies of M-avitaminotic dysentery were afterward made by Janota and Dack⁴ of the University of Chicago. Large doses of living dysentery bacilli administered to normal monkeys would not produce dysentery. Confirming this negative result they found that many of their captive monkeys maintained on an adequate stock diet were healthy

carriers of *B. dysenteriae* (Flexner). As soon as these healthy carriers were placed on a vitamin M deficiency diet they developed Flexner type bacillary dysentery. Monkeys on diets deficient in vitamins A, C and D in addition to the M factor did not show severer symptoms, from which they concluded that M is the essential antidysentery vitamin in this animal species.

In their latest studies of nutritional cytopenia, Day and his colleagues¹ have confirmed these bacteriologic results, recovering *Shigella paradysenteriae* from the stools of M-deficiency monkeys. In one of their series 3 out of 16 monkeys with this deficiency failed to develop diarrhea, although each exhibited severe leukopenia before death. They conclude that the diarrhea is not the essential cause of the lethal blood dyscrasia. They interpret their results as proof that vitamin M deficiency causes a lowered microbic resistance in the gastrointestinal mucosa, and that gingivitis and ulcerative colitis result from the action of pathogenic saprophytes already present in these locations.

The probability that their conclusions are applicable also to man is strengthened by recent studies of human dysentery carriers. In an examination of six hundred and eighty-eight apparently well persons in Henrico County, Va., for example, McGinnes and his colleagues⁵ found one hundred and ten (17.6 per cent) whose intestine harbored the dysentery bacillus. Whether or not the few associated cases of clinical dysentery were correlated with nutritional deficiencies, however, was not determined by the Virginia epidemiologists. If nutritional deficiency is the essential etiologic factor in human dysentery, the path to epidemiologic control of this disease becomes apparent.

MAGAZINES FOR THE WAITING ROOM

Patients and office attendants in physicians' waiting and reception rooms throughout the country report increasingly that *Hygeia*, the Health Magazine, when available, is most frequently read. One attendant reports that thirteen copies of news stand favorites were available in the office under her observation. With six copies of popular 5 cent weeklies at hand, one was in use. From two copies of a well known magazine that specializes in cartoons, one was chosen for reading. Of three copies of a popular picture magazine, one was being read. But with two copies of *Hygeia* present, both were in use!

Hygeia's appeal accords with the tremendous increase in interest in well presented health material. The great attendance at health exhibits in the Chicago Century of Progress Exposition, at the New York World's Fair or at the more localized expositions in such cities as Milwaukee, San Francisco, Cleveland and Pittsburgh exemplify this interest. The informative, well illus-

1. Day, P. L.; Lanston, W. C.; Darby, W. J.; Wohlin, J. G., and Nims, Virginia: *J. Exper. Med.* 72: 463 (Oct.) 1940.

2. Verder, Elizabeth, and Petran, Elizabeth: *J. Infect. Dis.* 60: 193 (March-April) 1937.

3. Langston, W. C.; Darby, W. J.; Shukers, C. F., and Day, P. L.: *J. Exper. Med.* 68: 923 (Dec.) 1938.

4. Janota, Martha, and Dack, G. M.: *J. Infect. Dis.* 65: 217 (Sept.-Oct.) 1939.

5. McGinnes, G. F.; McLean, A. L.; Spindle, Forrest, and Maxcy, K. F.: *Am. J. Hyg.* 24: 552 (Nov.) 1936.

trated, authoritative articles found in *Hygeia* meet this thirst for knowledge about health.

Since the physician's reception room is a health center, it is the logical place for dissemination of facts about health. The patient comes there because of a definite interest in health and appreciates the opportunity to increase his knowledge by reading *Hygeia's* articles rather than fiction or entertainment. A patient waiting to see a doctor is not interested in entertainment; he wants information and help.

A careful survey of one hundred offices in eighteen representative cities was recently made to observe reading preferences of waiting patients throughout the entire "office day." From the figures obtained, it is apparent that nearly two million waiting patients now read *Hygeia* every month in doctors' offices. Subsequently a test was made to determine "reader response" by inserting special coupons in doctors' copies of *Hygeia*. Waiting patients signed and returned about one third of the coupons—demonstrating that they are definitely motivated by what they find in the magazine.

Physicians who are subscribers frequently write that *Hygeia* disappears from their reception rooms, being frequently carried away by patients who find articles of special interest to them. In such instances, on receipt of postal card notice, an additional copy will be mailed without charge to the physician.

The physician who does not keep recent copies of *Hygeia* available in his reception room for waiting patients to read is overlooking an opportunity to benefit himself and his patients. Patients will appreciate the thoughtfulness of the doctor in providing the magazine. They will profit from its authentic articles and gain an increasing respect for scientific medicine. The physician will find such patients more cooperative and more appreciative of his services.

Current Comment

OSTEOPATHY IN NEBRASKA

Osteopaths may not practice operative surgery in Nebraska, according to an opinion handed down May 2 by the supreme court of that state. The supreme court based its opinion, it is reported, on the fact that the legislature had recognized a difference between the practice of medicine and surgery on the one hand and the practice of osteopathy on the other by providing for the issuance of different types of licenses to the two classes of practitioners. The osteopaths in Nebraska have sought to take a short cut to the field of medicine by having enacted a law authorizing them to practice as taught in osteopathic schools. This type of statute was resorted to in the belief that, by the simple expedient of adding additional courses in osteopathic schools, osteopaths could ease over into the practice of medicine without having to obtain specific legislative authority. Formerly they tried the same procedure in Kansas,

where the supreme court said in effect that if osteopaths desire to practice medicine they should qualify in the same manner in which doctors of medicine have to qualify. Now another state supreme court has halted the attempt by osteopaths to obtain the right to practice in a field in which by training and experience they are not qualified. To the argument that the principles of osteopathy have changed, Justice Carter in the Nebraska case replied that the scope of osteopathy cannot be changed merely by a self-serving attempt to broaden its extent by invading fields requiring a different license. "If the changes are the result of advancements in the profession," continued Justice Carter, "they still constitute the practice of osteopathy. But the practice of operative surgery by an osteopath is an invasion of the field of the physician and surgeon as it is generally known and is not an evolutionary advancement of the profession." Assistant Attorney General Clarke in prosecuting this case to a conclusion has earned distinction not only for himself but for the state of Nebraska.

LEISHMANIASIS IN CRETE

On the island of Crete Dr. Basileus Malamos of Athens conducted studies on leishmaniasis. Crete is said to be the only place in the world where the three types of *Leishmania* are found simultaneously. Kala-azar, oriental boil (also called Aleppo boil, Delhi sore, Pendjelah sore and Biskra button) and canine kala-azar occur. Transmission takes place through gnats (*Phlebotomus*) and is specific. Oriental boil is encountered more frequently in the interior of cities, in narrow, dark streets and in certain dwellings. Kala-azar is found chiefly at the edge of towns or in houses in a rural environment. The explanation by Malamos is that the vector of kala-azar can move only within a short radius, whereas that of oriental boil can fly some distance. This explains why the two diseases are rarely found in the same person and why kala-azar is met frequently in children whose contact with the ground is closer. The clinical manifestations of kala-azar include pronounced leukopenia, enlargement of the spleen, meteorism, discoloration of the skin, anemia, progressive emaciation, cachexia and prolonged fever with remissions. The differential diagnosis must consider malaria, erythroblastosis and anemias due to other causes. Thorough diagnosis requires sternal puncture. Spleen puncture, formerly employed, has been found to be dangerous and has been discontinued. Antimony is the substance used chiefly in combating the disease. Military physicians must consider kala-azar. Cases of kala-azar were observed in the recent Spanish civil war among nazi troops fighting for Franco, and the condition was first mistaken for malaria. The oriental boil may occur more than once in the same person from repeated bites by infected gnats, each sting leading to a boil. Here differential diagnosis must consider lupus, lipoma and syphilis. Cauterization is the therapy recommended. Canine kala-azar occurs in dogs that have access to city areas in which human kala-azar is encountered. The manifestations in canine kala-azar are about the same as in the human type. However, ulcers, loss of hair and a rapidly induced cachexia can also be observed.

MEDICAL PREPAREDNESS

In this section of The Journal each week will appear official notices by the Committee on Medical Preparedness of the American Medical Association, announcements by the Surgeon Generals of the Army, Navy and Public Health Service, and other governmental agencies dealing with medical preparedness, and such other information and announcements as will be useful to the medical profession.

SELECTIVE SERVICE SYSTEM ACTS TO DEFER MEDICAL STUDENTS AND INTERNS

To meet a "growing national shortage of physicians and surgeons," reported by the Office of Production Management, a policy of deferment from military training of individual medical students "who give reasonable promise of becoming acceptable medical doctors" was proclaimed, March 4, by Brig. Gen. Lewis B. Hershey, deputy director of Selective Service. These deferments should be continued in each case as long as the student is progressing satisfactorily, he said.

General Hershey's memorandum, which summarizes the report of the OPM, was sent to all state Selective Service directors for communication to their local boards. It stresses the OPM statement that the shortage of physicians and surgeons affects both the nation's armed forces and the civilian population and that the utmost care must be exercised to meet both needs.

Local boards are urged to see that, while no practicing physician whose services are necessary to his community is called for military service, the requirements of the armed forces for physicians and surgeons also are filled. It also is stressed that where physicians, including interns, are eligible for military service they should be encouraged to apply for Medical Reserve Corps commissions, but that they will be inducted if they are placed in class I-A and fail to take advantage of the opportunity to be commissioned. In the case of interns it was pointed out that, if commissioned, they will be deferred from active duty by the War Department to complete one year's internship.

Summarizing the OPM report on its study of the situation, General Hershey pointed out that it indicates a present need of around 9,000 medical officers for the Army, Navy, Public Health Service and Veterans Administration in addition to present staffs. This approximates a reduction of about 5 per cent in the number of physicians now available for service in civilian life, and it is estimated that the further demand caused by health problems in communities expanded by new defense industries will increase this civilian need to about 10 per cent.

In addition to the 9,000 additional medical officers required by the Army, Navy and other defense agencies, General Hershey said the OPM report showed a probable annual turnover of around 3,500 because of retirement of regular medical officers and the expiration of tours of duty of reserve medical officers.

The OPM report estimates that there are 155,000 practicing physicians in the United States, of whom about 27,000 are

65 years of age or older, and the mortality is around 3,800 a year. Their places can be filled only by medical graduates who enter the profession each year and their number is estimated at approximately 5,000, of whom only 60 to 65 per cent probably would be qualified physically or otherwise for military service.

Commenting on this situation in announcing the Selective Service policy of deferring medical students who are making satisfactory progress in their professional training, General Hershey's memorandum to state directors stated:

There are no replacements for medical students who are withdrawn from school. Consequently if the supply of medical students who are to be graduated into the medical profession is reduced through their induction to serve in a nonprofessional capacity, an increasing reduction of physicians available for military service as well as an aggravation of the increasing overall national shortage will result.

As an outline of policy and procedure for the Selective Service System concerning medical students, General Hershey quoted the OPM report:

It is of paramount importance that the supply be not only maintained but encouraged to grow, and that no student or intern who gives reasonable promise of becoming an acceptable medical doctor be called to military service before attaining that status.

Local boards were cautioned, however, that deferment is not an exemption and that the obligation and liability for military service remain on its expiration.

General Hershey's memorandum also called attention to a previous one, issued on April 22, prescribing procedure for deferment of individual students in a number of specialized professional fields which were suggested by the Office of Production Management. This memorandum suggested procedure for presenting local boards with detailed facts concerning individual students, which was prepared by the American Council of Education and concurred in by National Headquarters of the Selective Service System. As set forth in a bulletin (number 10) issued by the council, this provides for getting into the hands of the local board of a "student statement of information" concerning his status and plans, and an affidavit by his college or university in which the college officials testify as to his standing, courses and occupational objectives, together with a general evaluation of the student as a "necessary man" for occupational deferment.

ARMY RESERVE OFFICERS ORDERED TO ACTIVE DUTY WAR DEPARTMENT

The following additional medical reserve corps officers have been ordered to extended active duty by the War Department, Washington, D. C.:

DAVIS, John Evan, Jr., 1st Lieut., Trenton, N. J.
DOEHRING, Paul Christoph, Jr., 1st Lieut., Rochester, Minn.
FLANDERS, Merton Newcomb, 1st Lieut., Waterville, Me.
FUIKS, Dellivan Meldrim, Captain, Sacramento, Calif.
GAJAN, Isidore Wilmot, Jr., 1st Lieut., New Iberia, La.
GOEN, Rayburne Wyndham, 1st Lieut., Denver.
HANLEY, James Leo, 1st Lieut., Rochester, Minn.
HELBLING, Franklin Kirkland, 1st Lieut., South Pasadena, Calif.
HINES, Leonard Wayne, 1st Lieut., Santa Rosa, Calif.
HOFFMAN, Richards Holmes, 1st Lieut., Bellefonte, Pa.
KAISER, William Frederick, Jr., 1st Lieut., Portland, Ore.
KASLOW, Arthur Louis, 1st Lieut., Palo Alto, Calif.
KEARNEY, Sanborn Gale, 1st Lieut., Bakersfield, Calif.

LECLERCQ, George Theodore, Captain, Boston.
LONG, Arthur Paige, Captain, Needham, Mass.
LYON, Thomas Pinkney, 1st Lieut., Gilroy, Calif.
MULLER, Harold Powers, Captain, Oakland, Calif.
OETJEN, Leroy H., 1st Lieut., Leesburgh, Fla.
OWSLEY, Guy Argyle, Captain, Hartford City, Ind.
PETERMAN, James E., 1st Lieut., Indiana, Pa.
RYAN, Bernard Francis, 1st Lieut., Ahwahnee, Calif.
SAKKISIAN, Milton Vahan, 1st Lieut., Sacramento, Calif.
SPECKER, Lewis, Captain, Sacramento, Calif.
STRUBLE, Gilbert Carl, Captain, Ottumwa, Iowa.
UPSHUR, Alfred Parker, Lieut. Col., New York.
WARRINGTON, William Rich, 1st Lieut., Portland, Ore.

Orders Revoked

McANALLY, William Jefferson, Jr., 1st Lieut., New Orleans.
WILSON, Galo Edward, Captain, Seattle.

FIRST CORPS AREA

The following additional medical reserve corps officers have been ordered to extended active duty by the Commanding General, First Corps Area, which comprises the states of Maine, Vermont, New Hampshire, Rhode Island, Massachusetts and Connecticut:

AXELROD, George, Captain, Clinton, Mass., Fort Devens, Mass.
CASHMAN, Justin L., 1st Lieut., North Haven, Conn., Fort Devens, Mass.
COTTER, Joseph R., 1st Lieut., Charleston, Mass., Fort Devens, Mass.
DeMINICO, Luigi B., 1st Lieut., Brighton, Mass., Fort Devens, Mass.
DOOLEY, Francis M., Captain, Portland, Maine, Fort Devens, Mass.
DUNKLE, Philip L., 1st Lieut., Wallum Lake, R. I., Fort Devens, Mass.
ELIAS, Anthony N., 1st Lieut., Taunton, Mass., Fort Devens, Mass.
FINEBERG, Meyer H., Major, Boston, Fort Devens, Mass.
FLANAGAN, Donald J., 1st Lieut., Somersworth, N. H., Camp Edwards, Mass.
GRABFIELD, Gustave P., Colonel, Boston, Memphis, Tenn.

THIRD CORPS AREA

The following additional medical reserve corps officers have been ordered to extended active duty by the Commanding General, Third Corps Area, which comprises the states of Pennsylvania, Virginia, District of Columbia and Maryland:

ALBRIGHT, Chester Harrison, Jr., 1st Lieut., Harleysville, Pa., Fort George G. Meade, Md.
BARNES, Russell Henry, 1st Lieut., Tyrone, Pa., Indiantown Gap Military Reservation, Indiantown Gap, Pa.
BENSY, Oliver Robert, Captain, Pittsburgh, Camp Lee, Va.
BERNSTEIN, Albert Alexander, 1st Lieut., Scranton, Pa., Fort Belvoir, Va.
BITMAN, Joseph, 1st Lieut., Abington, Pa., Camp Davis, N. C.
BOSS, Myron Theodore, 1st Lieut., Baltimore, Camp Davis, N. C.
CAMBEST, Michael Albert, Jr., 1st Lieut., Pittsburgh, Fort Belvoir, Va.
CANUSO, Nicholas Andrew, 1st Lieut., Philadelphia, Fort Bragg, N. C.
CAWLEY, Frank Thomas, 1st Lieut., Washington, D. C., Fort Belvoir, Va.
CRIGLER, Fielding Jason, Captain, Charlottesville, Va., Fort Belvoir, Va.
CROCKETT, Edward David, 1st Lieut., Washington, D. C., Fort Bragg, N. C.
GATES, John Stoeve, 1st Lieut., Mount Joy, Pa., General Dispensary, U. S. Army, Baltimore.
GIORDANO, Anthony Mariano, 1st Lieut., Reading, Pa., Camp Davis, N. C.
GOLDMAN, Louis H., 1st Lieut., Philadelphia, Fort Benning, Ga.
GROSSMAN, Aaron, Captain, Allentown, Pa., Camp Polk, La.
HOFFMAN, Carl Cooke, 1st Lieut., Harrisburg, Pa., Fort George G. Meade, Md.
HRESAN, Michael George, 1st Lieut., St. Clair, Pa., Camp Davis, N. C.
HULBURT, Richard Stephen, 1st Lieut., Washington, D. C., Fort George G. Meade, Md.
HUROK, Oscar Joseph, Captain, Galetton, Pa., Fort Eustis, Va.

FIFTH CORPS AREA

The following additional medical reserve corps officers have been ordered to active duty by the Commanding General, Fifth Corps Area, which comprises the states of Ohio, West Virginia, Indiana and Kentucky:

BOIARSKY, Julius L., 1st Lieut., Charleston, W. Va., Fort Knox, Ky.
BOSSARD, Samuel L., Major, Gallipolis, Ohio, Fort Knox, Ky.
BOWERS, Jesse W., Lieut. Col., Fort Wayne, Ind., Fort Benjamin Harrison, Ind.
BRINKER, Herbert J., 1st Lieut., Cincinnati, Fort Thomas, Ky.
BROWN, Harry M., 1st Lieut., Indianapolis, Fort Knox, Ky.
CARRIGG, Lawrence G., 1st Lieut., Bowling Green, Ky., Fort Knox, Ky.
CHILDS, Wallace E., 1st Lieut., Princeton, Ind., Fort Knox, Ky.
ELLIS, Stephen R., 1st Lieut., Versailles, Ind., Fort Knox, Ky.
FEISTKORN, Karl H., 1st Lieut., Marion, Ohio, Fort Hayes, Ohio.
FISH, Carlos A., Jr., 1st Lieut., Louisville, Ky., Fort Knox, Ky.
JONES, Edward V., Jr., 1st Lieut., Morgantown, W. Va., Fort Knox, Ky.
KRIZ, Joseph R., Captain, Toledo, Ohio, Fort Knox, Ky.
LAWRENCE, Leslie L., Captain, Canton, Ohio, Louisville, Ky.

SIXTH CORPS AREA

The following additional medical reserve corps officers have been ordered to extended active duty by the Commanding General, Sixth Corps Area, which comprises the states of Wisconsin, Illinois and Michigan:

BRANDEL, John M., 1st Lieut., Owosso, Mich., Station Hospital, Fort Sam Houston, Texas.
CASTALDO, Enzo Frank, 1st Lieut., Chicago, 215th General Hospital, Fort Custer, Mich.
CHECHILE, Dominic T., 1st Lieut., Chicago, Elementary Flying School, Cuero, Texas.

HAMILTON, John S. M., 1st Lieut., Stamford, Conn., Fort Devens, Mass.
HENDERSON, John W., Jr., Captain, Worcester, Mass., Fort Devens, Mass.
HERRMAN, Albert E., Major, Waterbury, Conn., Camp Edwards, Mass.
LEWIS, Frank E., Major, Nantucket, Mass., Camp Edwards, Mass.
SHEINBERG, Jules H., 1st Lieut., Brighton, Mass., Fort Adams, R. I.
TAYLOR, Richard C., 1st Lieut., Spencer, Mass., Camp Edwards, Mass.
TUNICK, George L., 1st Lieut., Greenwich, Conn., Fort Devens, Mass.
WALKER, Lowell S., Jr., 1st Lieut., Middlebury, Vt., Fort Devens, Mass.

Orders Revoked

ASHER, Leonard M., 1st Lieut., Boston.
BLACK, Harry, 1st Lieut., Lowell, Mass.
CUMMINGS, Harwood W., 1st Lieut., Greenfield, Mass.
FEELEY, John R., 1st Lieut., Bangor, Maine.
GLADSTONE, Robert W., 1st Lieut., Pittsfield, Mass.
KEES, Philip A., Captain, Longmeadow, Mass.
LEAVITT, Benjamin, 1st Lieut., Fall River, Mass.
LEVY, William S., 1st Lieut., Woonsocket, R. I.

HUTCHISON, Henry Edward, 1st Lieut., McKeesport, Pa., Camp Davis, N. C.
JARRETT, Marion Fisher, 1st Lieut., Farnham, Va., Fort Eustis, Va.
KLITCH, George Martin, 1st Lieut., Harrisburg, Pa., Camp Lee, Va.
LaFRATTA, Carl William, Captain, Richmond, Va., Fort Belvoir, Va.
LIEBMAN, Joseph, 1st Lieut., Norton, Va., Camp Lee, Va.
MacMINN, Charles Clayton, Jr., 1st Lieut., New Oxford, Pa., Fort Belvoir, Va.
MARTIN, Josef Ernest, 1st Lieut., Kingston, Pa., General Dispensary, U. S. Army, Philadelphia.
MOORE, James Irving, 1st Lieut., Catonsville, Md., Selective Service for State of Maryland, 5th Regiment Armory, Baltimore.
MUZI, Americo Joseph, 1st Lieut., Old Forge, Pa., Camp Davis, N. C.
NORTON, Fred Lee, 1st Lieut., Belle Vernon, Pa., Camp Davis, N. C.
O'BOYLE, James Patrick, 1st Lieut., Dunmore, Pa., Camp Davis, N. C.
PORTER, Walter Albert, Captain, Hillsville, Va., Fort Belvoir, Va.
RUGH, J. L. Keith, 1st Lieut., Bolivar, Pa., Camp Davis, N. C.
STEELE, Frederic Hohman, Captain, Huntingdon, Pa., Fort Story, Va.
TEMPLETON, Frederick Glenn, 1st Lieut., Warren, Pa., Fort Belvoir, Va.
TERRY, William Parker, 1st Lieut., Charlotte Court House, Va., Fort Belvoir, Va.
THOMAS, Harold Wilson, Major, Arnold, Pa., Fort Belvoir, Va.
TOMPKINS, Pendleton Souther, Captain, Philadelphia, Fort Bragg, N. C.
TURNBLACER, Charles Burkle, 1st Lieut., Butler, Pa., Carlisle Barracks, Pa.

Orders Revoked

BARKOFF, Samuel, 1st Lieut., Baltimore.
DRAYER, Calvin Searle, Captain, Upper Darby, Pa.
KISER, Jefferson Bishop, 1st Lieut., Emporia, Va.
LAULER, John William, 1st Lieut., Jersey Shore, Pa.
McKEE, Carlisle Emerson, 1st Lieut., Pittsburgh.
NEALE, Milton Mercer, Jr., 1st Lieut., Heathsville, Va.
STAPINSKI, Stanley Michael, 1st Lieut., Glenn Lyon, Pa.

MATUSKA, Walter H., Captain, Ottawa, Ohio, Fort Knox, Ky.
MERICLE, Earl W., Captain, Indianapolis, Fort Benjamin Harrison, Ind.
MILLER, James W., 1st Lieut., Greensburg, Ky., Fort Knox, Ky.
NICHOLS, William E., 1st Lieut., Manchester, Ky., Fort Knox, Ky.
NIEMAN, Roland E., 1st Lieut., Cincinnati, Fort Knox, Ky.
NORWICK, Sydney S., 1st Lieut., Indianapolis, Fort Knox, Ky.
O'BELL, John J., 1st Lieut., Kingsville, Ohio, Fort Knox, Ky.
OCKULY, Edward F., 1st Lieut., Toledo, Ohio, Fort Knox, Ky.
POTTER, Frederick C., Major, Cuyahoga Falls, Ohio, Fort Knox, Ky.
REED, Roger R., 1st Lieut., Indianapolis, Fort Knox, Ky.
RITTEMAN, George W., Captain, Indianapolis, Fort Benjamin Harrison, Ind.
SALMON, James L., Captain, Cloplint, Ky., Fort Knox, Ky.
SEMONS, Robert J. E., 1st Lieut., Carey, Ohio, Fort Knox, Ky.
SMITH, Beecher L., Captain, Columbus, Ohio, Fort Hayes, Ohio.
SRULOWITZ, Jack, 1st Lieut., Belpre, Ohio, Fort Hayes, Ohio.
STEPHENS, Wilson P., 1st Lieut., Jenkins, Ky., Fort Knox, Ky.
WATSON, Herman L., 1st Lieut., Evansville, Ind., Fort Knox, Ky.
WILSON, Arnold, 1st Lieut., Welch, W. Va., Fort Knox, Ky.

CRANE, Warren B., 1st Lieut., Kalamazoo, Mich., Post Surgeon's Office, Fort Custer, Mich.
FARMER, Donald F., 1st Lieut., Chicago, U. S. Army Induction Station, Chicago.
GEHRINGER, Norman F., 1st Lieut., Richmond, Mich., Medical Replacement Center, Infirmary, Camp Grant, Ill.
GOLDT, Henry B., 1st Lieut., Chicago, U. S. Army Induction Station, Chicago.
GROSSMAN, Solomon C., 1st Lieut., Detroit, U. S. Army Induction Station, Chicago.
HANSON, Frederick N., 1st Lieut., Eloise, Mich., Medical Replacement Center, Camp Grant, Ill.

HINKO, Edward N., 1st Lieut., Plymouth, Mich., Station Hospital, Fort Custer, Mich.
JASINSKI, Thaddeus, 1st Lieut., Chicago, U. S. Army Induction Station, Chicago.
KORANSKY, David S., 1st Lieut., Chicago, U. S. Army Induction Station, Chicago.
MARKS, Ben, 1st Lieut., Detroit, U. S. Army Induction Station, Detroit.
MCCAIN, George H., 1st Lieut., Battle Creek, Mich., 23d Evacuation Hospital, Fort Custer, Mich.
MULLENMEISTER, Hugh F., Captain, Battle Creek, Mich., 11th Station Hospital, Fort Custer, Mich.
MURPHY, Michael R., 1st Lieut., Cadillac, Mich., 119th Field Artillery, Lansing, Mich.
OLSON, William A., 1st Lieut., Greenwood, Wis., 32d Division, Camp Beauregard, La.
PAULY, Roman C., 1st Lieut., Milwaukee, Station Hospital, Camp Grant, Ill.
PINC, Otto C., Captain, Riverside, Ill., Elementary Flying School, Corsicana, Texas.
ROBERSON, Brooks L., 1st Lieut., Wood River, Ill., U. S. Army Induction Station, Chicago.
ROBERSON, William V., 1st Lieut., Wood River, Ill., U. S. Army Induction Station, Chicago.
ROMANO, John Emil, 1st Lieut., Congress Park, Ill., U. S. Army Induction Station, Milwaukee.
SAXON, Michael R., 1st Lieut., Oswego, Ill., Station Hospital, Fort Bliss, Texas.

SEVENTH CORPS AREA

The following additional medical reserve corps officers have been ordered to extended active duty by the Commanding General, Seventh Corps Area, which comprises the states of North Dakota, South Dakota, Minnesota, Nebraska, Iowa, Kansas, Missouri, Arkansas and Wyoming:

BAILEY, William Harold, 1st Lieut., St. Louis, Corps Area Service Command, Station Hospital, Fort Leonard Wood, Mo.
BRANHAM, Donald Stark, Captain, Albert Lea, Minn., 56th Coast Artillery, Harbor Defenses, San Francisco.
HELLUMS, Julius Hopwood, 1st Lieut., Dumas, Ark., 56th Coast Artillery, Harbor Defenses, San Francisco.
JENSEN, Nathan Kenneth, Captain, Minneapolis, Corps Area Service Command Station Hospital, Fort Snelling, Minn.
KIMBALL, Gilbert Leslie, 1st Lieut., DeQueen, Ark., Corps Area Service Command Station Hospital, Fort Riley, Kan.
RANKER, Clarence Andrew, 1st Lieut., Powell, Wyo., Corps Area Service Command Induction Station, Jefferson Barracks, Mo.
SAUNDERS, Everett Lewis, 1st Lieut., Independence, Mo., Corps Area Service Command Induction Station, Jefferson Barracks, Mo.
STENSAAS, Carl Oscar, 1st Lieut., Lindsborg, Kan., Corps Area Service Command Induction Station, Fort Snelling, Minn.
TREHARNE, Frank Edwin, 1st Lieut., Independence, Mo., Corps Area Service Command Induction Station, Fort Leavenworth, Kan.
TROWBRIDGE, Barnard Cole, 1st Lieut., Kansas City, Mo., Corps Area Service Command, Station Hospital, Fort Leonard Wood, Mo.

EIGHTH CORPS AREA

The following additional medical reserve corps officers have been ordered to active duty by the Commanding General, Eighth Corps Area, which comprises the states of Colorado, Arizona, New Mexico, Oklahoma and Texas:

ADLER, Stuart Welsh, 1st Lieut., Albuquerque, N. M., Station Hospital, Fort Bliss, Texas.
ASHBY, John Edmund, Captain, Dallas, Texas, Station Hospital, Fort Sam Houston, Texas.
BUNGARDT, Alfred Hiller, Jr., 1st Lieut., Oklahoma City, Station Hospital, Camp Berkeley, Texas.
CAFFEE, William Milton, Lieut. Col., Dallas, Texas, Station Hospital, Camp Hulen, Texas.
DASHIELL, Albert M., 1st Lieut., Austin, Texas, Station Hospital, Fort Sam Houston, Texas.
DAY, Roy Willard, Jr., 1st Lieut., Magdalena, N. M., Ellington Field, Texas.
DUEWELL, Rudolph Henry, 1st Lieut., Durant, Okla., Station Hospital, Fort Sill, Okla.
ETTER, Forrest Stayton, Major, Bartlesville, Okla., Station Hospital, Fort Sill, Okla.
FAIR, George Kenneth, Captain, Galveston, Texas, Station Hospital, Fort Sam Houston, Texas.
HARRISON, Daniel Allen, Jr., 1st Lieut., Kingsville, Texas, Station Hospital, Fort Sam Houston, Texas.
HELPER, Lewis M., 1st Lieut., San Antonio, Texas, Station Hospital, Fort Sill, Okla.
HUGHES, James Gillian, 1st Lieut., Oklahoma City, Station Hospital, Fort Sill, Okla.
JACOBSON, Harry, 1st Lieut., Post, Texas, Ellington Field, Texas.
JONES, Ernest Lee, 1st Lieut., Longview, Texas, 36th Division, Camp Bowie, Texas.
KAPLAN, Morris, 1st Lieut., Denver, Ellington Field, Texas.

SCHUTZMAN, Benjamin M., 1st Lieut., Detroit, 5th Division, Fort Custer, Mich.
SIMMONS, Warren K., 1st Lieut., Chicago, Station Hospital, Fort Bliss, Texas.
TANNENHOLZ, Harold S., 1st Lieut., Battle Creek, Mich., Medical Replacement Center, Infirmary, Camp Grant, Ill.
TEBOREK, Roy F., 1st Lieut., Chicago, U. S. Army Induction Station, Chicago.
URIST, Maurice D., 1st Lieut., Manteno, Ill., U. S. Army Induction Station, Chicago.
WAGNER, Jack, 1st Lieut., Chicago, 215th General Hospital, Fort Custer, Mich.
WALLER, James B., 1st Lieut., Decatur, Ill., Medical Replacement Center, Infirmary, Camp Grant, Ill.
YOUNG, Francis W., 1st Lieut., Chicago, U. S. Army Induction Station, Chicago.
ZARCONI, Vincent P., 1st Lieut., Decatur, Ill., 103d Corps Area Battalion, Fort Sheridan, Ill.

Orders Revoked

LARIMORE, Granville W., 1st Lieut., Chicago.
MOLL, Clarence D., Major, Detroit.
ROBINSON, Ralph D., 1st Lieut., Moberly, Mo.
SCHIELE, William C., Major, Galena, Ill.
THEIS, Edward H., Major, Granite City, Ill.

TUBOR, Robert Bruce, 1st Lieut., Hibbing, Minn., Camp J. T. Robinson, Ark.
VOLLMER, Frederick John, 1st Lieut., Grand Forks, N. D., Induction Station, Jefferson Barracks, Mo.
WIECHMAN, Frederick Herman, Captain, Montgomery, Minn., Station Complement, Fort Riley, Kan.
WILMOTH, Luther Harmon, Captain, Lander, Wyo., Induction Station, Jefferson Barracks, Mo.
WILSON, Donald Jasper, Major, Omaha, Corps Area Service Command, Station Hospital, Fort Leonard Wood, Mo.
WOERN, William Henry, 1st Lieut., England, Ark., Corps Area Service Command Induction Station, Fort Snelling, Minn.
YANCEY, Daniel Layton, Jr., Major, Springfield, Mo., Corps Area Service Command Station Hospital, Fort Leonard Wood, Mo.
ZAESKE, Edward Vernon, 1st Lieut., Charter Oak, Iowa, 1st Medical Regiment, Fort Ord, Calif.

Orders Revoked

ARNY, Frederick P., 1st Lieut., Preston, Mo.
BLANKENSHIP, George W., 1st Lieut., Boonville, Mo.
BROWN, Merle J., Captain, Davenport, Iowa.
GUCCIANI, Joseph B., 1st Lieut., St. Louis.
HANNA, Joe T. A., 1st Lieut., Scottsbluff, Neb.
HAYS, Albert T., 1st Lieut., Minneapolis.
HEPPERLEN, Harry M., Captain, Beatrice, Neb.
PALMER, Henry P., 1st Lieut., Scott City, Kan.

KENNEDY, Louis James, 1st Lieut., Clinton, Okla., Station Hospital, Fort Sill, Okla.
LONG, James W., 1st Lieut., Port Arthur, Texas, Station Hospital, Fort Sam Houston, Texas.
MCCLURE, Harold M., 1st Lieut., Chickasha, Okla., Station Hospital, Fort Sill, Okla.
McKNIGHT, William Hodges, 1st Lieut., Fort Worth, Texas, Ellington Field, Texas.
PENIX, Lex L., 1st Lieut., Denver, Station Hospital, Fort Sam Houston, Texas.
PITT, Charles Kermit, 1st Lieut., Denver, Station Hospital, Fort Bliss, Texas.
SCHWAB, Irving H., 1st Lieut., Colorado Springs, Colo., U. S. Army Recruiting Station, Oklahoma.
SHANKEL, Harry Weylman, 1st Lieut., Denver, Station Hospital, Fort Sam Houston, Texas.
SHARP, James Calvin, Captain, Corpus Christi, Texas, Camp Wallace, Texas.
SHUPE, Reed Dalton, Captain, Phoenix, Ariz., Basic Flying School, San Angelo, Texas.
STRECKER, William E., 1st Lieut., Oklahoma City, Station Hospital, Fort Sill, Okla.
TOM, Henry K., Captain, Port Arthur, Texas, 36th Division, Camp Bowie, Texas.
WARRENBURG, Clarence B., Captain, Phoenix, Ariz., Station Hospital, Fort Bliss, Texas.
ZARR, Luther Lynn, 1st Lieut., Houston, Texas, 211th Coast Artillery, Camp Hulen, Texas.

Orders Revoked

BARNACLE, Clarke Horace, Captain, Denver.
COTTON, William Walker, 1st Lieut., Atoka, Okla.
RUCKER, Ralph Weller, 1st Lieut., Bartlesville, Okla.
SANGER, Paul Griffith, 1st Lieut., Vinita, Okla.
WIERNIK, Harris, 1st Lieut., Lovelady, Texas.

NEW NAVY MEDICAL OFFICERS

The following candidates were appointed assistant surgeons in the Navy, with the rank of Lieutenant (junior grade), Medical Corps, to rank from March 20:

ALBRITAIN, John W., Baltimore.
BERGMAN, John H., Charleston, W. Va.
BUNN, James H., Jr., Smithfield, N. C.
BURNS, Francis M., Kearny, N. J.
BUTLER, Fred A., Chattahoochee, Fla.
CHESKO, Clement C., Washington, D. C.
DeLAMATER, James N., Pasadena, Calif.
DOBSON, John P., Manhasset, L. I., N. Y.
ETTER, Harry S., Shippensburg, Pa.
FOWLER, James T., Jr., El Paso, Texas.
GRACE, William J., Swampscott, Mass.
GRESSLY, Donald W., Beaver, Pa.
GRISWOLD, Wait R., Indianapolis.
HART, John C., Los Angeles.

HURST, Gerald W., Hanna, Wyo.
JONES, Horace Leonard, Jr., Richmond, Va.
KEARNEY, Edward A., Jr., Boston.
LANGSTON, William G., New York.
MAMONAS, Christopher, Pittsfield, Mass.
MARTIN, Marion T., Memphis, Tenn.
McATEER, Gerald H., Washington, D. C.
MOUNT, Robert A., Houston, Texas.
OLENICK, Everett J., Oak Park, Ill.
PASSMORE, Glen G., San Antonio, Texas.
PITTARD, Knox, Jr., Anson, Texas.
POLLARD, Joseph P., Alexandria, Va.
RADER, George S., Indianapolis.
ROBERTSON, Robert F., Los Angeles.
ROWE, John B., Flint, Mich.
SCHULTZ, Arthur L., Laguna Beach, Calif.
WILLIAMS, Robert Hamilton, Seattle.
YOUNG, Mark I. H., Buffalo.

DOCTORS FOR BRITAIN

More than five hundred applications have been received to date in response to the recent request of the British Red Cross to the American Red Cross for one thousand physicians to serve in Great Britain, and several hundred of them now are in the process of being investigated, the Subcommittee on Medical Personnel for Britain, of the Division of Medical Sciences of the National Research Council, announced in Chicago May 2 following a meeting at the headquarters of the American Medical Association. The National Research Council and the American Medical Association are cooperating with the American Red Cross in endeavoring to meet the British request.

Attending the meeting in Chicago May 2 were Dr. O. H. Perry Pepper, Philadelphia, chairman of the subcommittee; Dr. Morris Fishbein, Editor of THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, and Dr. Evarts A. Graham, St. Louis, members of the subcommittee; Dr. G. D. Williams of the American Red Cross; Lieut. Col. Charles G. Hutter of the United States Army Medical Corps; Dr. Olin West, Secretary of the American Medical Association, and Dr. R. G. Leland of the American Medical Association.

The subcommittee announced that the names of all applicants are being checked with the biographic files of the American Medical Association.

Within the next few days formal circularization will be made by the American Red Cross of all physicians in the United States under the age of 45 who may be qualified for this service, it was announced.

TESTING A NEW STEEL HELMET

The War Department announces that tests are being made at Fort Benning, Ga., of a new steel helmet, which, if adopted, should provide greater protection to the head and be more comfortable than the present type of helmet. The proposed new helmet weighs about 3 ounces more than the present one and is made of tougher steel, with a dome shaped top which extends down in front to cover the forehead without impairing vision and down the sides of the head and back of the neck. The first World War statistics show that about 12 per cent of all wounds inflicted were head wounds. The steel in the proposed new helmet is sufficiently tough to withstand the majority of shrapnel balls and a high percentage of shell splinters, grenade fragments and spent rifle and machine gun bullets. The front of the new helmet forms a cap style visor and the rear is slightly flanged, so that rain will clear the collar opening. The helmet weighs about 2½ pounds and is lined with fiber designed for use as a field hat to replace the present overseas cap.

EXPERIMENTAL STUDY OF SOLDIERS' CLOTHING

The Fatigue Laboratory of Harvard University, Cambridge, Mass., will undertake an experimental study under simulated field conditions of clothing for soldiers. Thirty volunteers will march on a treadmill for specified lengths of time between four and eight hours, but not oftener than once every ten days, wearing regulation army clothing and carrying full field

equipment. Each of the thirty soldiers during these experiments will be subjected to studies of their water and salt balances and during the ten minute rest periods will be weighed, have their feet examined and their temperature, pulse and blood pressure taken. The treadmill will be heated to simulate the heat of tropical countries, and the soldiers' fatigue reaction will be checked carefully. Conditions in the treadmill will be adjusted also to simulate conditions in various other climates. Efforts will thus be made to discover the best types of underwear, socks, shoes and later other articles of clothing. A study of the treatment of foot ailments will also be undertaken, as well as the possibility of replacing leather soles of shoes with cork or rubber or some other compound.

MEDICAL DEPARTMENT TRAINING PROGRAM

A broad general medical training program has been set in motion by the War Department to train officers, nurses, enlisted men and civilians for duty in military hospitals and in the field forces. The largest class ever to take a refresher course at the medical field service school at Carlisle Barracks, Pa., is now in training, including five hundred and sixty-eight reserve, national guard and regular army officers and one hundred technicians. About fifteen thousand enlisted specialists have reported for three months courses of instruction at special service schools located at fixed general hospitals and, in addition, about forty different refresher courses in hospital administration are being given in six different general hospitals. The courses in hospital administration are designed to acquaint the reserve and national guard officers with the procedures and various forms of the military service. About 75 per cent of the medical department's enlisted strength requires technical instruction. It is estimated that twenty thousand qualified medical technicians of various kinds will be required for an army of one million four hundred thousand. Facilities to instruct eighteen thousand enlisted technicians each year in three months courses are available at the following army hospitals: Letterman General Hospital, San Francisco; Fitzsimons General Hospital, Denver; William Beaumont General Hospital, El Paso, Texas; Army and Navy General Hospital, Hot Springs National Park, Ark.; Station Hospital, Fort Sam Houston, Texas; Army Medical Center, Washington, D. C., and the Medical Field Service School, Carlisle Barracks, Pa.

SIXTEENTH MEDICAL REGIMENT AT FORT DEVENS

The following medical officers are on duty with the 16th Medical Regiment at Fort Devens, Mass.:

BENNETT, Austin W., Captain, Regular Army, Fort Devens, Mass.
GOULD, George I., 1st Lieut., Biddeford, Maine.
HIEHLE, Wilbur W., Captain, Regular Army, Fort Devens, Mass.
JOSLIN, Allan P., 1st Lieut., Boston.
KELLY, Alexander P., Lieut. Col., Regular Army, Fort Devens, Mass.
KNEPP, James W., Lieut. Col., Bridgeport, Conn.
MATTERA, Vincent J., 1st Lieut., Providence, R. I.
OLANS, Sidney, 1st Lieut., Somerville, Mass.
PAGLIARO, Joseph J., 1st Lieut., Derby, Conn.
PALMER, Jay J., Captain, Regular Army, Fort Devens, Mass.
SCHILLER, Irving W., 1st Lieut., Boston.
VOEGTLY, John H., Captain, Regular Army, Fort Devens, Mass.
WEINSTEIN, Barnett, 1st Lieut., Peabody, Mass.

ORGANIZATION SECTION

AMERICAN MEDICAL ASSOCIATION ON TRIAL

THE TRIAL OF THE CASE OF THE UNITED STATES OF AMERICA
VS.

THE AMERICAN MEDICAL ASSOCIATION, A CORPORATION, THE MEDICAL SOCIETY OF THE DISTRICT OF COLUMBIA, A CORPORATION, THE HARRIS COUNTY MEDICAL SOCIETY, AN ASSOCIATION, THE WASHINGTON ACADEMY OF SURGERY, AN ASSOCIATION, ARTHUR CARLISLE CHRISTIE, COURSEN BAXTER CONKLIN, JAMES BAYARD GREGG CUSTIS, WILLIAM DICK CUTTER, MORRIS FISHBEIN, THOMAS ALLEN GROOVER (DECEASED), ROBERT ARTHUR HOOE, ROSCO GENUNG LELAND, THOMAS ERNEST MATTINGLY, LEON ALPHONSE MARTEL, FRANCIS XAVIER MCGOVERN, THOMAS EDWIN NEILL, EDWARD HIRAM REEDE, WILLIAM MERCER SPRIGG, WILLIAM JOSEPH STANTON, JOHN OGLE WARFIELD JR., OLIN WEST, PRENTISS WILLSON, WILLIAM CREIGHTON WOODWARD, WALLACE MASON YATER, JOSEPH ROGERS YOUNG.

(Continued from page 2089)

MARCH 27 (CONTINUED)

TESTIMONY OF DR. CLAUDE C. CAYLOR

DIRECT EXAMINATION

By Mr. Leahy:

Q.—I am showing you a photostatic copy of a letter, the original of which I think was shown you when you were on the stand before. Will you look at that now and see if you can recall having seen and identified the original of it? A.—Yes, sir; I did.

Q.—Doctor, you sent that letter out, did you? A.—Yes, sir.

Q.—Do you recall now under whose direction, if anybody's, the letter was sent? A.—This was sent at the direction of the Medical Staff of Providence Hospital.

Q.—What instructions, if any, had you received with reference to the letter before you sent it out?

Mr. Leahy:—From whom?

Mr. Leahy:—From the Medical Staff.

A.—It was simply to notify the men of this recommendation of the American Medical Association that all members of our staff—the recommendation was that all members of our staff should belong to the American Medical Association or one of its constituent bodies.

Q.—When you sent out the letter had you any instructions as to the form of the letter or the words to be used? A.—No, sir. That was left to my discretion.

Q.—And following sending out the letter, Doctor, did you ever do anything further toward checking up? A.—No; I never did anything further toward checking up. As I recall, I sent this letter to six doctors, and each one of those doctors spoke to me personally about this without ever writing an answer.

Q.—Do you recall now, as a matter of fact, whether all those doctors actually joined the Medical Society or not? A.—I don't know, as a matter of fact, but my impression is that they all did, sir.

Q.—Have you members on the staff now who are not members of the local medical society? A.—Yes, sir.

Q.—And do you recall now whether at any time you considered that the recommendation, as you have stated, of the American Medical Association was a threat or a form of coercion against your hospital? A.—No, sir; I never thought it was a threat.

CROSS EXAMINATION

By Mr. Lewin:

Q.—Doctor, you were secretary of the Executive Staff, were you not? A.—Yes, sir.

Q.—And you signed the minutes, did you not, of the meeting of the Executive Staff at Providence for Feb. 17, 1938? A.—Yes, sir.

Q.—It would be your testimony, then, that shortly after you sent out this letter you were able to note general compliance with the recommendation of the A. M. A. on the part of doctors connected with your staff? A.—Yes, sir.

TESTIMONY OF SISTER ROSA

DIRECT EXAMINATION

By Mr. Leahy:

Q.—Sister Rosa, you are superintendent of Providence Hospital, are you not? A.—Yes, sir.

Q.—How long have you been superintendent, Sister? A.—Four years, I think, this month.

Q.—Before coming to Providence Hospital where were you located? A.—I was stationed in Emmitsburg.

Q.—In what capacity were you engaged there? A.—I was Protectress at the Mother House.

Q.—When you came to Providence Hospital as superintendent, what were your duties generally, Sister? A.—I supervised the entire hospital, in all departments.

Q.—Do you recall now when there came a time that you wanted a residency in surgery approved at Providence Hospital? A.—Yes, sir; I do.

Q.—Do you recall who it was that took that matter up for you over there? A.—Dr. Caylor.

Q.—Do you recall that there came a time when an inspection was made of the hospital? A.—Yes.

Q.—Was that made by the American Medical Association through its representative? A.—Yes.

Q.—Do you remember the name Dr. Peterson? A.—Yes.

Q.—Do you recall whether he was there at your hospital? A.—Yes, sir; I think he was.

Q.—Sister, does Providence Hospital have inspections made of it quite frequently? A.—Yes.

Q.—What is the purpose of those inspections? A.—Well, we had this inspection to give us permission to train residents. That was why I wanted it. And we do have inspections of our school of nursing twice a year, from New York State and the District, and we have had inspections by the College of Surgeons and the American Medical Association.

Q.—What is the purpose of the inspections which are made by the American Medical Association? A.—To raise our standards, I should think. I requested them to come so that I could know wherein we were making mistakes in regard to training interns, and we were trying then to raise our standards for the training of residents.

Q.—In surgery? A.—Yes.

Q.—Do you recall that you finally got that privilege? A.—Yes, sir; we did.

Q.—Do you remember when it was, what year, you got approval for residency in surgery? A.—I think it was 1939.

Q.—Do you remember now whether, after the inspection was made of the hospital, a report came in to you as to what the inspector found? A.—Yes.

Q.—Do you recall whether you read that report over, yourself? A.—I read it over several times, but I just cannot give you an accurate account of everything that was in it, just now.

Q.—Do you recall having written a letter, which I am now going to show you, Sister, after receiving that report? A.—Yes; I do.

Q.—I am going to show you a letter which has been introduced in evidence here, dated Aug. 27, 1937. Is that your signature, Sister (indicating)? A.—Yes.

Q.—You were then the acting superintendent? A.—Yes.

Q.—Would you look that over, please, Sister, and see if you can recall that letter? A.—Yes; I do.

Q.—Do you remember, Sister, the letter of Dr. Peterson or Dr. Cutter which accompanied the report of the inspection made of Providence Hospital? A.—No; I do not remember that.

Q.—But at this time, when you wrote this letter, I will ask you if it was in connection with this letter which I am now showing you, dated Aug. 21, 1937, and numbered 239. A.—This was written by Sister Margaret.

Q.—Did you see that letter? A.—I don't remember it. Maybe I saw it on the file there, but I do not remember it.

Q.—Did you also write another letter to Dr. Cutter of the Council on Medical Education and Hospitals, dated Oct. 12, 1937, which is numbered 241? A.—I think this is the letter. I think Dr. Caylor or some of the doctors wrote this letter, if I am not mistaken, and asked me to sign it. I read it and they asked me to sign it to verify what the hospital thought in regard to this matter; that I represented the hospital, and that if I put my name here (indicating) it would verify the statements made in it.

Q.—And you did so? A.—Yes, sir.

Q.—Sister, with reference to any of the suggestions which you recall were made to Providence Hospital after the inspection, were any of them considered by you to be a threat against the hospital? A.—Well, you see, I invited these men at this time that I have reference to. I didn't know about Sister Margaret's letter. I am only answering for myself and the letter that I wrote. I invited them to come because I was most anxious to train residents, and these young men were anxious for it and I was backing them up, and I wrote it for them to give us constructive criticism; and that is what I considered it.

Q.—You did not consider it coercion or a threat or anything of that kind? A.—No, sir. I never thought of that, any more than when the District Nursing Board examines us and makes recommendations. We always try to carry them out 100 per cent. But I do not consider them a threat, because some of them we can't carry out very well. We try to do the best we can.

Mr. Leahy:—This letter has already been read in evidence, but it deals with recommendations of Dr. Peterson's report. It deals with the intern committee, the records which form the only index of the work done by the attending residents and nursing staff, securing of autopsies, medical library, and it says that "Members of the staff who do not belong to the Medical Society have been contacted and at the present time all non-members have submitted their applications for membership, so that now with those exceptions all members of our staff are members of the American Medical Association or affiliated with its constituent societies." It is signed by Sister Rosa and Dr. Caylor, who was the secretary.

Q.—Sister, at any time do you recall that you discussed matters with Dr. Peterson who made the inspection? A.—Yes; I think I did.

Q.—In anything which you did in connection with meeting the requirements or the recommendations of any report or any suggestion which was made by Dr. Peterson or the American Medical Association, did you have in mind anything whatsoever about G. H. A.? A.—No; I did not.

Q.—Do you remember now whether Dr. Selders ever made an application for privileges at Providence Hospital? A.—Yes; he did.

Q.—When that application was received do you know what was done with it? A.—It was sent to the Academy of Surgery.

Q.—Do you recall whether a recommendation was received back from the Academy of Surgery? A.—Yes; I think it was.

Q.—Can you identify this particular exhibit which I just showed you as the letter which was returned by the Academy of Surgery? A.—I really do not remember whether I saw it or not. I do not take up the medical end of the staff very much. The doctors transact that.

Mr. Leahy:—This has already been identified. It is U. S. Exhibit 448, dated Jan. 31, 1938 and directed to Dr. Valentine Hess, Providence Hospital.

By Mr. Leahy:

Q.—Who is Dr. Hess, Sister? He was our medical director at that time.

Mr. Leahy:

"Dear Dr. Hess:

"The Committee on Hospital Privileges recommends approval of the application of to practice major surgery at your hospital. The committee recommends disapproval

of the applications of and Dr. Raymond E. Selders to do major surgery at Providence Hospital.

"Very sincerely yours

"F. C. Fishback, Secretary,
Washington Academy of Surgery."

The name is there, but I am not mentioning the name.

Mr. Lewin:—I have no questions of Sister Rosa. I wonder if, in connection with this testimony, however, a paragraph of a letter already in evidence might be called to the jury's attention. This was a letter to Sister Margaret that Sister Rosa did not receive.

THE COURT:—I suppose there is no objection to that.

Mr. Leahy:—It is already in evidence.

Mr. Lewin:—Yes. I want the jury to bear it in mind in connection with this testimony.

(The witness left the stand.)

Mr. Lewin:—It is dated Aug. 21, 1937, from Dr. Cutter to Sister Margaret, superintendent of Providence Hospital. I will simply read this sentence from it (reading):

"As matters stand now we believe quite likely that when this statement is submitted to the Council at its regular meeting early in November internship approval will be withdrawn. Similarly the application for approval of a residency in surgery is held in abeyance pending the adjustment of the present situation."

Then:

"We also append for your information a resolution of our House of Delegates of the American Medical Association."

Then follows the Mundt Resolution, and then:

"According to our analysis there are six members of your staff who are not affiliated with any of the constituent societies of the A. M. A."

Mr. Leahy:

"You will recognize that there are several factors that are not in conformity with the Council's regulations governing internship approval. It is a matter of great interest to this office, therefore, to learn whether the recommendations enumerated at the end of the report are acceptable or not."

Then follows the sentence beginning "As matters stand now," which was just read by Mr. Lewin.

(Counsel for both sides approached the bench and conferred with the Court in a low tone.)

Q.—Doctor, I show you this letter and ask you if this is the copy of the letter for which we have been waiting? A.—This is.

Mr. Leahy:

DEFENDANTS' EXHIBIT 53

"Nov. 22, 1937.

"Dr. E. W. Titus,
900 17th Street N.W.,
Washington, D. C.
"Dear Lige:

"Your letter received concerning Dr. Selders, and after inquiry, I found the following facts. He was in Houston during the time stated but he was not anything to brag about. He was quite interested in music, and I found out from some of his associates that he acquired a huge office and tried to attract attention that way. Apparently he has had opportunities to acquire knowledge, but he seems to get in most any one's hair by his pushing tactics. From the reports I have obtained, I do not think that one could give him a most favorable recommendation. I feel sure that you will keep this confidential."

Then the following paragraph:

"I feel that my obstetrics will keep me here and away from the Toronto meeting. It may be possible for me to leave at the last moment.
"With best wishes, I am

"Your friend,
"Robert A. Johnston, M.D."

By Mr. Leahy:

Q.—Now, Doctor, when you received this letter what weight did you give that letter in regard to your recommendation from the Gynecological Society as to his having general gynecological privileges at Columbia? A.—I attached a great deal of importance to this particular letter. I happen to know Dr. Johnston over a great many years: a very prominent man, belongs to a small organization we call the Travel Club, and I see him each December with few exceptions.

By Mr. Lewin:

Q.—What was the name of it? A.—The Gynecological and Obstetrical Travel Club.

By Mr. Leahy:

Q.—Doctor, there was a question I wished to ask you: In the recommendation which you made from the Gynecological Society did you include others besides Dr. Selders among those who were disapproved? A.—Yes.

THE COURT:—Don't mention names.

Mr. Leahy:—No; don't mention names.

The Witness:—Quite a well known surgeon here in Washington, who applied for major operative obstetrics at Columbia Hospital. We reported unfavorably on him.

By Mr. Leahy:

Q.—Did you report favorably or unfavorably on any fellows of your Gynecological Society? *A.*—Yes, we did. Two in number, as I recall.

Q.—Were they members of your own society? *A.*—They were.

By Mr. Leahy:

Q.—Doctor, do you recall while you were at Columbia Hospital during the years 1937 and 1938 that you ever saw any questionnaire which was sent out by the Hospital Committee of the District of Columbia Medical Society? *A.*—No.

Q.—Did any questionnaire from the District of Columbia Medical Society come before any board, to your knowledge, for any action in the Columbia Hospital?

The Witness:—I have seen no questionnaires coming from the Medical Society to the Columbia Hospital Board.

CROSS EXAMINATION

By Mr. Lewin:

Q.—Dr. Titus, have you got your copy of your letter to Dr. Johnston that brought forth this reply? *A.*—No, I haven't. He didn't send me that.

Q.—Did you keep a copy? *A.*—No, I did not.

Q.—Do you remember your letter to Dr. Johnston? *A.*—I remember this much of it: that I told him that we had a man who made application to our hospital, meaning Columbia Hospital; that he had given certain references. One of them was in Houston, Texas. And would he at his earliest convenience send me a report of what he knew or could find out about him.

TESTIMONY OF DANIEL L. BORDEN

DIRECT EXAMINATION

By Mr. Leahy:

Daniel L. Borden, Washington, a practicing physician, graduated from the George Washington University in 1912. He was in Columbia Hospital for Women for three years, and then at the George Washington University Hospital, and received training under the immediate supervision of his father, who was a surgeon before him. He then went into the service in 1917 for a little over two years. He is Chairman and Senior Operating Surgeon of the Board of Police and Fire Physicians of the District.

Q.—Are you also a member of the Academy of Surgery? *A.*—Yes, sir.

Q.—How long have you been a member of the Academy of Surgery? *A.*—I was one of its founders.

Q.—And in what year was it founded? *A.*—My recollection, about 1933.

Q.—And what were the purposes of the foundation of the Academy of Surgery? *A.*—The Academy of Surgery was founded by a group of surgeons in Washington, with the thought of maintaining and if anything increasing the general prestige and standards of practice of surgery in the District of Columbia.

Q.—Were you during 1937 and 1938 a member of any committee in the Academy of Surgery? *A.*—I was a member of the Credentials Committee.

Q.—And what are the functions of the Credentials Committee in the Academy of Surgery? *A.*—As far back as 1935 the Academy of Surgery discussed the question of some type of standard committee to examine applicants for surgery in the various Washington hospitals, and in 1936 this was started as a committee, and I was appointed to that committee and remained on that committee until I was made president of the Academy of Surgery.

Q.—And what year were you made the president of the Academy of Surgery? *A.*—1938.

Q.—Doctor, what investigation is made by the Credentials Committee of the application of a surgeon for courtesy privileges in the hospitals in the District of Columbia? *A.*—The Credentials Committee is composed of five men elected originally by the Society, and in recent years they are elected or appointed by the President of the Academy of Surgery. The functions of this committee are to review all applicants for surgical privileges in the various hospitals of Washington; that is to say, such hospitals that care to submit applicants to the Academy for their opinion. This opinion is an advisory one only.

Q.—And how is the investigation made into the qualifications of a surgeon? *A.*—The investigation is made by filling out an application blank. That is to say, all applicants are required to fill out an application blank giving all of their qualifications.

Then, in addition to that they must give on that blank the names of at least three sponsors: in other words, men who will go on record in writing as stating that they are able and capable of doing general surgery.

Q.—Do you recall, Doctor, whether at any time while you were on the Credentials Committee of the Academy of Surgery the application of Dr. Raymond E. Selders came before the Academy for investigation? *A.*—My memory of that is fairly clear. The first time that I knew about it I was called to a meeting at Dr. John Lyons' office. He was then chairman of the Credentials Committee, and the name of Dr. Selders was presented to the committee. At that time we had nothing except his application blank. Dr. Lyons read the application blank to the committee and referred the application blank to Dr. Fred Sanderson for investigation. The following month—it was in January 1938, that Dr. Fred Sanderson reported to the committee his finding. Now, it was the habit, or custom, rather, for the chairman of the Credentials Committee to investigate most of the applicants; but Dr. Lyons on this particular occasion, and I, myself, were planning to go down to a meeting of the Southern Surgical Association. So Dr. Fred Sanderson, because of this situation, was asked by Dr. Lyons at the meeting to investigate the qualifications of Dr. Selders.

Q.—And do you recall at what meeting it was that report was made back to the Credentials Committee? *A.*—Well, it is my impression that it took about a month's time, and the meeting at which the report was referred back and finally acted on, if my memory serves me right, was January 1938.

Q.—How many were on the Credentials Committee? *A.*—Dr. John Lyons was the chairman of the committee; Dr. Fred Sanderson, Dr. Paul Putzki, Dr. Arch Riddick, and myself.

Q.—Do you recall now whether in whatever application Dr. Selders had made and which you had under investigation there were any names of references subscribed thereon? *A.*—In Dr. Selders' application he gave the names of three sponsors: that is, men whom he gave us to sponsor him as being reliable with regard to the practice of surgery. Those names, as I remember them now, were those of Dr. Walter E. Lee and a Dr. Moore down in Texas, and then some Senator's name.

Q.—Do you recall who the Senator was? *A.*—Senator Lee, but I don't remember his first name.

Q.—Was it Josh Lee? *A.*—Well, that may be.

By Mr. Leahy:

Q.—I think you stated, Doctor, that both Defendants' Exhibit 44 for identification and Defendants' Exhibit 54 for identification were before you on the consideration of Dr. Selders' application. *A.*—They were read at the committee meeting.

Q.—Have you an independent recollection, now, Doctor, as to how many of the sponsors whom Dr. Selders named replied? *A.*—We only received one reply. That is, Dr. Sanderson only received one reply, and only gave that one reply to the committee in its January meeting.

Mr. Leahy:—Defendants' Exhibit 44 is the letter of Dr. Walter Estell Lee, 1833 Pine Street, Philadelphia, Dec. 16, 1937. It is addressed to Dr. Frederick Sanderson:

DEFENDANTS' EXHIBIT 44

"In reply to your inquiry about Dr. Raymond E. Selders, he is a mature man and has had a very varied experience. He is an accomplished musician, a graduate in civil engineering and several other professions, and he studied medicine quite late in life. While in the southwest he practiced medicine and surgery and then finally entered the Graduate School of the University of Pennsylvania two years ago, spending one year in the basic science course in Philadelphia, and one year in clinical work at Worcester, Massachusetts. At Worcester they apparently gave him unusual opportunities, far beyond what we considered his training warranted. However, he seemed to get away with it, and the last I heard of him was the fact that he had made application for this position of surgeon to the Home Owners Loan Medical Service.

"I do not know just what he is aspiring to in Washington and I hope this outline that I have given will answer your purpose.

"Very truly yours,

"Walter Estell Lee,"

This is a carbon copy of a letter:

DEFENDANTS' EXHIBIT 54

Jan. 12, 1938.

"Dr. John D. Moore,

Hugo, Oklahoma.

"Dear Dr. Moore:

"On Dec. 6, 1937 last I wrote you requesting some information concerning the surgical training and ability of Dr. Raymond Selders, Houston, Texas, who has applied for hospital privileges in several Washington hospitals. As yet I have had no reply from you and would appreciate it very much if you would kindly forward me the information I ask.

"Very truly yours,

"Fred R. Sanderson, M.D."

By Mr. Leahy:

Mr. Leahy:—This I think has been offered, your Honor, in evidence. I just wish to read the last paragraph: addressed to "Dear John," on the Washington Academy of Surgery stationery:

"I am anxious to talk to you before you reach any decision on Dr. Selders, especially if there is feeling that he will be disproved purely because of his connection here in Washington. As a matter of policy and tact, and I believe for the good of general public attitude toward the profession, the question of his relationship to the Group Health Association, Inc., should not be permitted to enter the discussion."

That is dated Dec. 9, 1937.

By Mr. Leahy:

Q.—Doctor, I want to ask you now: In the discussion of the qualifications of Dr. Selders for hospital privileges in the hospitals for which he had made application and on which you were acting as one of the committee of credentials, did you or did you not pass on the qualifications of Dr. Selders regardless of any connection which he may have had with the Group Health Association, Inc., as indicated in the letter of Dr. Fishback? A.—The Credentials Committee of the Academy of Surgery depended entirely on the qualifications of the man to do general surgery in making its final judgment. It is true that the letter that has been read was read at that committee meeting.

Q.—And did the Credentials Committee of the Academy of Surgery approve or disapprove the qualifications of Selders for the privileges which he asked with relation to Group Health Association in any degree, Doctor? A.—The Group Health Association situation was purposely kept out of this whole question, as indicated by that letter. That letter was sent really as a precautionary measure—at least, in my opinion—by Dr. Fishback, who was the secretary of our organization. However, so far as I personally was concerned, I was willing to divorce any such thought out of my mind in passing on a man's qualifications to do general surgery.

Q.—Doctor, in your judgment what if any recommendation is contained in Dr. Lee's letter as to the qualifications of Dr. Selders to do general surgery in the hospitals of the City of Washington? A.—Well, of course, we doctors in this committee meeting talked very plainly, and we sense our responsibility rather keenly, and we feel, to put it in common language, that a letter submitted to us as the only written evidence that we had to go on other than that submitted by Dr. Selders himself really damned him with faint praise. That is my interpretation of that letter.

Q.—Did you at that time, then, recommend for or against giving privileges to Dr. Selders in the hospitals for which you investigated? A.—The committee's action was unanimous against giving him general surgical privileges.

Q.—And do you know how many were actually present of the Credentials Committee at that time and voting? A.—No. I have to depend entirely upon my memory, but I think we had a full committee meeting, but I am not absolutely sure. I know I was there.

CROSS EXAMINATION

By Mr. Lewin:

Q.—Dr. Borden, you were, I believe, a member of the Executive Committee of the District Medical Society during the year 1937, were you not, and the early part of 1938? A.—I was appointed first in 1936, and remained through 1938.

Q.—And weren't you a pretty regular attendant at the meetings of the Executive Committee during the latter half of 1937? A.—I attended a great many meetings.

Q.—Yes. As a matter of fact, the minutes, I believe this is fair to say, list you as attending most of the meetings of the Executive Committee during the latter half of 1937. Would you say that corresponded— A.—I think that's a fair statement.

Q.—Yes. And of course you were familiar, weren't you, with the resolutions that were passed, to the effect that Group Health Association was unethical? A.—Well, I was familiar with most of the actions of the Executive Committee, although it was not impressed on my mind then to the extent it is now.

Q.—Yes. But I mean, you do remember those resolutions? One was, "We shall consider it unethical," and then in September of 1937 I believe the resolution was that it was unethical. You remember that, don't you? A.—Well, now, I want to be perfectly frank about this situation.

Q.—I can get you the minutes. A.—I am just not clear in my mind what you have reference to.

Q.—All right. Let me get the minutes; it will take me a little time, I am afraid. A.—If you could repeat the resolution I might remember it.

Q.—Well, the resolutions are fairly long, as I remember them, but there were a number of resolutions to the effect that Group Health Association was unethical. Don't you remember that? A.—Now, is that in the Executive Board or the Medical Society?

Q.—The Executive Committee first, and then reported to the Society.

Mr. Leahy:—I think we ought to have the minutes.

Mr. Lewin:—Very well. We will have to get them.

By Mr. Lewin:

Q.—For instance here, at the September 8th meeting, the special meeting of the Executive Committee (indicating). A.—Was I present then?

Q.—No, I guess you weren't. You weren't present at that meeting? A.—Apparently not. I don't see my name there.

Q.—Well, let's get the next one. A.—I was present at that one (indicating).

By Mr. Lewin:

Q.—Well, now, take September 27. Do you remember this committee's finding? A.—Was I there?

Q.—Yes, you were here. At least, you are listed as being present. A.—Yes. O. K.

Q.—Do you remember the committee's finding that "the conditions of rendering the medical and surgical services offered by Group Health Association as set forth appear to be inconsistent with the criteria for the acceptable form of contract practice by which we are obliged to be guided, and particularly it would appear that at least two of the criteria would necessarily be violated," and then the principles of medical ethics of the American Medical Association are set forth? A.—May I just look to see what this is all about?

Q.—Yes, indeed. A.—Oh, this is report by Dr. Macatee.

Q.—Yes. A.—I recall this report in general.

Q.—Well, to try to shorten it a little bit, don't you remember that the Medical Society took the position that Group Health Association was unethical as violating the principles of medical ethics of the A. M. A.? A.—I think both the Medical Society and I took that at that time.

Q.—You did. That is all. A.—To the best of my memory.

Q.—Yes. That is all I wanted. Well, now, Dr. Lyons, who was on this committee with you in the Washington Academy of Surgery, was likewise a member of the District Medical Society and the Executive Committee, wasn't he? A.—Dr. Lyons was the chairman of the Credentials Committee of the Academy of Surgery.

Q.—Yes. A.—Now, whether he was on the Executive Committee or not, I don't know.

Q.—Wasn't he a member of the District Medical Society? A.—He was a member of the District Medical Society.

Q.—Yes. And Dr. Sanderson was a member? A.—Yes.

Q.—Wasn't he a member of the C. O. & I. M. Committee that was chairmaned by defendant Hooe? A.—Why, I have no idea whether he was or he wasn't. He may have been.

Q.—Whether he was or he wasn't. He may have been. Wasn't Dr. Putzki also a member of the District Medical Society? A.—Dr. Putzki is a member of the Society.

Q.—And Dr. Riddick as well? A.—Yes, sir.

Q.—Yes. Well, now, do you remember that after this letter from Dr. Fishback came to Dr. John Lyons that you gentlemen passed a resolution in the Washington Academy of Surgery? A.—What resolution?

Q.—I call your attention to the minutes of the meeting of Dec. 10, 1937, of the Council of the Washington Academy, which are already in evidence, signed by Fishback.

THE COURT:—Point out the resolution, please.

Mr. Lewin:—Yes.

By Mr. Lewin:

Q.—Do you remember this resolution, Doctor: "Discussion concerning Group Health Association ensued. It was suggested that the professional qualifications of the surgeon of that organization alone be considered as a matter of public policy. However, a motion of Dr. Sager's was passed requesting the hospital privilege committee to consider the ethics of any applicant as well as his strictly surgical training and experience. The ethics were understood to be as defined by the American Medical Association"? Do you recall being present? A.—Yes, I remember that, all about that.

Q.—Yes. Well, didn't you gentlemen follow that resolution when you came to consider Dr. Selders? A.—Well, now, that requires a little explanation.

Q.—Well, all right. You are entitled to give that, but I wonder if you wouldn't answer my question first? Did you consider it? Did you follow that resolution? A.—We did not.

Q.—You did not follow it? A.—We did not. May I? It is very easy to explain how that got into the minutes, if I may.

Mr. Richardson:—Go ahead and explain.

The Witness:—Well, now, this particular resolution that has been brought to my attention just this very second here came about this way: At the scientific meetings of the Academy of Surgery, which are held four times a year, after a scientific meeting we have a business session, and at this business session we take up various matters that are of interest in a business way. Now, it is my recollection that Dr. Fishback brought up the question of G. H. A. at that time, at that meeting; and then Dr. Sager, in accordance with the statement in those minutes, passed or offered a resolution that the Credentials Committee of the Academy of Surgery in passing on the qualifications of surgeons should consider their ethical standing in any organization as well as their professional ability to do general surgery.

Now, that occurred in the early part of December. The meeting of our committee in which we passed on this Dr. Selders occurred in January; but, in accordance with my former statement, we divorced everything in passing judgment on this man, and at the same time passed the same judgment on five other men not associated with G. H. A., adversely.

Q.—Yes, sir. Well, now, it is perfectly clear, isn't it, that Dr. Sager's resolution was passed in connection with a discussion of the Group Health Association? A.—Yes, I see that in the notes there.

Q.—Yes. A.—Yes.

Q.—And the result of the discussion was that a resolution was passed directing you to consider, in connection with the Group Health Association applicant, his ethics as defined by the American Medical Association; am I right? A.—Well, we have always had the ethics of the American Medical Association as our background and by-laws, always.

Q.—Yes, but I am asking you whether you didn't consider that you were directed to consider the American Medical Association's ethics with regard to contract practice in passing on Dr. Selders. A.—Well, now, let's get this absolutely straight. We as a group, the Credentials Committee, have always felt that obviously we must abide by the standards set down by the American Medical Association; but we had to go a step further in passing on men doing general surgery, and that was to ascertain whether they were safe to operate on the public.

Q.—Dr. Borden, is it your testimony that you didn't follow the requirements of this resolution? You personally? A.—If my conscience told me not to follow it, I probably didn't, but my recollection is now, and definitely and honestly, that I passed personally—and I am sure the committee did—entirely on this man's qualifications as a surgeon. Now, there was a reason for that beyond the fact, in my opinion, that it was the right and proper thing to do, and that is for my own protection.

Q.—Well now, if there was a resolution here requiring you gentlemen to do it; how do you know that Dr. Lyons and Dr. Sanderson and Dr. Riddick and Dr. Putzki didn't have that situation in mind when they came to pass on Dr. Selders? A.—Well, it is perfectly obvious that I can't speak for anyone but myself, but I can say this: that I am in accord, after discussing this matter for a long period of time and coming to a studied decision, in the whole situation.

Q.—Now, I think it has been brought out in the evidence that you were considering Dr. Selders' application to Garfield and to George Washington and to Georgetown; am I right? A.—Well, not entirely, as my memory goes. My memory is this: that was the last meeting that I attended, because then I became president and automatically left the Board or the Committee of Credentials, but my memory is that we had but one application blank, in which appeared three names that I gave, and that's the only one that I know of, and I didn't see it. It was read off at the meeting.

Q.—Yes. And which hospital was that? A.—I can't remember which hospital it applied to, but it is my feeling that it was Garfield, but I'm not sure.

Q.—Yes. Well, now, if it were Garfield, then you would have had these references before you: Senator Josh Lee, United States Senator from Oklahoma; Dr. Walter E. Lee, surgeon of Philadelphia; and Dr. John T. Moore, the past president of the Medical Association of Texas, at Houston, Texas, wouldn't you? A.—Well, I think those are the three names I gave.

Q.—Now, did you have any other letters before your committee at that time when you acted than the ones that have been introduced in evidence just now? A.—It has been our

custom, and I have been on this committee ever since it has been developed, to simply take the evidence that was submitted by the applicant and the only evidence that was submitted were these three names.

Q.—Now, did you have anything before you except the letter from Dr. Walter E. Lee, before you, and Dr. Sanderson's letter to Dr. Moore? A.—We had just that one letter and Dr. Sanderson's second letter to Dr. Moore.

Q.—And they are the only things you had before you? A.—No; we had the application blank before us.

Q.—And the application blank. Was there anything else that you had before you? A.—That's about all the written material that we had.

Q.—Yes. Now, you didn't have Dr. Selders before you, I don't suppose? A.—No, sir.

Q.—And you didn't go to Worcester City Hospital or to Houston or to any places like that to investigate it, did you? A.—No, sir. This is a committee composed of five surgeons who are fairly busy men. We get no compensation, and we don't go out beyond our immediate meeting. We expect the material to be supplied to us, and then we will investigate it, but we have never, as a matter of custom, ever, gone outside of our own committee.

Q.—I see. Then, you haven't really any greater facilities for passing on an application for surgery than are held by the surgical staff of one of these hospitals, have you? A.—Well, only in this way: in my opinion, that the Academy of Surgery represents a group of hospitals. It isn't any one hospital. I think that does away with the possibility of possible bias, or we are trying to make it as standard as we can, as a matter of fairness and protection to the public and to ourselves. Now, we doctors circulate in every operating room in this city, and for that reason we rather feel that we honestly have an opportunity to know as much as possible; but here we were dealing with a stranger, a man who was not a Washington man at all, so our problem was much more difficult.

Q.—Well, it would have been just as simple for the surgical staff of a hospital to have considered this letter from Dr. Walter E. Lee as for you five gentlemen to have done it?

THE COURT:—That is obvious, isn't it?

Mr. Leahy:—That goes without saying.

THE COURT:—That goes without saying.

By Mr. Lewin:

Q.—Now, did Dr. Sanderson, as far as you know, write to Senator Lee? A.—He didn't present any letter from Senator Lee.

Q.—As far as you know he wrote only to Dr. Walter E. Lee and to Dr. Moore? A.—That was the only written evidence he brought into the committee meeting.

Q.—And you didn't get any response from Dr. Moore? A.—After two attempts, no.

Q.—Yes. Well, now, isn't it true that Dr. Moore was listed as Dr. John T. Moore; whereas Dr. Sanderson wrote to Dr. John D. Moore? Isn't it also true that Dr. John T. Moore's address on the application was given as Houston, Texas, and Dr. Sanderson wrote to him at Hugo, Oklahoma?

A.—Well, Dr. Sanderson carried out all of that correspondence. I had nothing to do with it.

Q.—Well, now, let me see that letter that you read in evidence a moment ago, will you? The one to Dr. Moore. Let me show you Dr. Lyons' letter to the secretary. Doesn't that show that he wrote to Dr. John D. Moore at Hugo, Oklahoma?

A.—Well, that is what that letter says.

Q.—Well, now, if he wrote to Dr. John D. Moore at Hugo, Oklahoma, and doesn't it also appear on Defendants' Exhibit 54, which was just read to the jury, "Dr. John D. Moore," of Hugo, Oklahoma? A.—Yes, sir.

Q.—Well, now, if that is where the letter went, don't you think that might account for the fact that you didn't get an answer from Dr. Moore? A.—I think that might.

Q.—All right. Now, here is Dr. Selders' application to Georgetown University Hospital, and I believe your committee passed on that application, didn't it? A.—Well, the only one that I personally have any recollection of was the one that gave those three names. Now, they may have all been similar, so far as I know.

Q.—Well; yes. I wonder if this does not refresh your recollection that here Dr. John T. Moore, past president of the Texas State Medical Association, Houston, Texas, is given; the same Dr. Walter E. Lee of Philadelphia; Dr. MacIver, the superintendent of the Worcester City Hospital; Dr. C. J. Burn, the senior surgeon at Worcester City Hospital? A.—I never heard of those last two doctors.

Q.—And you don't remember that Dr. Sanderson could give any report on what they said about Dr. Selders? A.—I am sure that Dr. Sanderson, as far as my memory goes, and it's pretty good—I think that those are the only written documents at that time that we had before us.

Mr. Lewin:—Now, gentlemen, have you found the one of Dr. Moore of Hugo?

Mr. Burke:—The one that has Senator Josh Lee's name on.

Mr. Lewin:—Let us give it to the jury. There is a "Josh." That is the Garfield.

RE-DIRECT EXAMINATION

By Mr. Leahy:

Q.—Doctor, you stated just now that at the same time that you passed on Dr. Selders' qualifications you passed on those of five other men? A.—Well, as a matter of fact, we passed on the qualifications of at least 60 or 70, but we refused privileges or recommended the refusal of privileges of five besides Dr. Selders, making a total of six altogether at that particular meeting.

Q.—And were some of those members of the District Medical Society? A.—I think that at least four were members of the District Medical Society.

Q.—And I think you also were inquired about as to your presence as a member on the Executive Committee of the District Medical Society, and some of the other members on the Credentials Committee also as members of the District Medical Society. A.—Yes, sir.

Q.—Doctor, when you were acting as a member of the Committee of Credentials of the Academy of Surgery here in Washington, what effect, if any, did the membership of anyone of the Credentials Committee on your Academy have with the District Medical Society? A.—Well, I am convinced and I know that none of the members of that committee even thought of the Association. I know I didn't, and it is absolutely impossible to bear in mind what committees you're members of up at that District Medical Society. There are 40 committees, and there are nearly 200 appointments on those committees, and I wouldn't have the faintest idea what committee any other member was on, unless I had had some association to remember it by.

RE-DIRECT EXAMINATION

By Mr. Leahy:

Q.—Doctor, from anything that was stated at the meeting which passed on the qualifications of these six men you say you passed on that night, was there any indication whatsoever that there was anything but an honest determination of the qualifications of those men for the recommendations you made?

Mr. Lewin:—Objected to as leading and asking for a conclusion.

THE COURT:—Yes, the doctor has gone over that.

By Mr. Lewin:

Q.—With regard to your remembering your committee appointments you do remember, don't you, that you and Dr. McGovern and Dr. Hooe formed the committee which drew up the so-called white list which was issued July 29, 1937?

Mr. Richardson:—Objected to as not proper cross-examination.

THE COURT:—Sustained.

TESTIMONY OF HENRY B. BLAIR

DIRECT EXAMINATION

Henry B. Blair, Washington, a member of the Bar of this Court since July, 1892, also of the Court of Appeals, and the Supreme Court of the United States, is connected with the Episcopal Eye, Ear, Nose and Throat, and Columbia hospitals. He was one of the incorporators; it was incorporated in 1897, and he has been continuously connected with the institution since then. During 1937 and 1938, he was the first vice president, which is the active member of the hospital from the executive side; the bishop of the diocese being, ex officio, the president, and he was also chairman of the executive committee. In Columbia Hospital he was on the executive committee perhaps during the entire period.

Q.—In the Episcopal Hospital what is the governing body of that hospital? A.—The governing body is the board of governors, which meets three times a year. The active body is the executive committee, which is appointed from the board of governors and meets monthly except during July and August.

Q.—And in Columbia what is the active governing body? A.—The setup is somewhat the same, I think. They are called "directors" at Columbia. They meet four times a year and the executive committee meets monthly.

Q.—And in between the meetings of the board I presume the executive committee is the controlling or governing body? A.—I would think so.

Q.—Is the Episcopal Eye, Ear, Nose and Throat a general or special hospital? A.—A special hospital, as its name implies.

Q.—Is Columbia a general or special hospital? A.—A special hospital for lying-in and diseases of women.

Q.—Does the Episcopal have an attending staff and a courtesy staff? A.—Yes.

Q.—What has been the rule, if any, in the Episcopal Hospital with reference to the right to practice one's profession therein?

A.—The medical staff makes recommendations annually and the board of governors approves those recommendations unless there is some question raised in regard to them.

Q.—In other words, is it a requisite at the Episcopal Hospital that one must belong either to the attending or courtesy staff before he can practice his profession there? A.—Yes.

Q.—And can you tell us over what period of time such a rule has existed? A.—During the existence of the hospital, so far as I know.

Q.—Is there any rule in the Episcopal Hospital restricting membership on the courtesy staff or attending staff to membership in the local medical society? A.—Not in the hospital itself; there is in the by-laws of the Medical staff.

Q.—During the years 1937 and 1938 was there any by-law in force in the Episcopal Hospital which required membership in the local District Medical Society as a prerequisite to practicing there? A.—I don't so understand it.

Q.—Did you know Dr. Dabney? A.—Quite well, pleasantly, not intimately; pleasantly, though.

Q.—Do you know whether he was a member of the courtesy staff in 1937 and 1938? A.—He was one of the chief surgeons during that time, which means he was a chief of the staff; we have there; one of the twelve chief of staff surgeons.

Q.—And continuously that during those two years, 1937 and 1938? A.—Yes.

Q.—Doctor, as vice president of the hospital during those two years, do you recall whether there was any regulation or rule of the hospital against G. H. A. patients coming into that hospital? A.—Not so far as I have any knowledge.

Q.—Did you know of any rule, or was there any rule of that hospital which made it necessary for Dr. Dabney to bring patients through the back door of the hospital; that is, G. H. A. patients? A.—I never heard of it; in answering your question, there was no such rule.

Q.—Now, with reference to Columbia Hospital, Mr. Blair, the years 1937 and 1938, do you recall whether Columbia Hospital ever put into effect any rule requiring membership in the local medical society as a prerequisite to the enjoyment of hospital privileges? A.—I am sure it did not.

Q.—Do you recall there was any rule or regulation put into effect by Columbia Hospital against G. H. A.? A.—I think not.

Q.—Do you know whether now there are on the staff or were during the years 1937 and 1938 members on the Episcopal Hospital staff who were not members of the District Medical Society? A.—I can't answer that positively; I think not, but I do not know.

Q.—Have you any knowledge as to that in regard to Columbia Hospital? A.—I would have to make the same answer there.

CROSS EXAMINATION

By Mr. Lewin:

Q.—Have you got that by-law you spoke of of the medical staff? A.—I furnished all the information I have. I have nothing with me; at the request of the Government we furnished everything we had.

Q.—The medical staff has by-laws? A.—They have of their own, yes.

Q.—Were you the chairman of the executive committee of the Episcopal Hospital in September 1938? A.—Yes.

Q.—Did you attend a meeting of that committee September 20, 1938? A.—I would expect so; I haven't any independent recollection of it at this particular time.

Q.—I show you what purports to be the minutes of that meeting, signed by Anita Richardson, secretary pro tem; is that her signature? A.—Yes.

Q.—I call your attention to this statement:

"The chairman informed the committee that he had received during the summer several communications regarding Group Health Association and that we would go along on the present basis until the matter had been finally adjusted between the doctors and Group Health Association."

Do remember making that statement?

A.—Substantially: that is Miss Richardson's language; it is not mine.

Q.—By “doctors” in that phrase, “adjusted between the doctors and Group Health Association,” did you mean the Medical Society of the District of Columbia? A.—Our own doctors; whatever conclusion they might reach.

Q.—That is, go along on the present basis until the matter had been adjusted between the doctors on your staff and Group Health Association? A.—That is my response.

Q.—That is the statement you made? A.—Yes.

Q.—Well, do I understand your testimony to be that there was a by-law of the medical staff relating to confining the courtesy list to members of the District of Columbia Medical Society? A.—I think: now, this is impression, and I am not positive about it. I think our medical staff has had both the clause in effect and the clause not in effect, and my information is that at the time of this, 1937 and 1938, as to which inquiry was made, that was not a requirement; that is my information.

Q.—I wonder if you could furnish us with that by-law. A.—I can't furnish you with anything. I have furnished you with everything we had as called for by the subpoena.

Q.—What does the by-law look like? A.—It is very much the same as what you have there. It is not in the reports of the hospital.

Q.—You don't know when that by-law was adopted? A.—Which one do you mean?

Q.—The by-law restricting the courtesy staff to members of the District Medical Society. A.—No, I do not; not during 1937 and 1938, I don't think; it was after that time. I have been told that there was no such by-law at that time, and I have produced the sources of my information and filed them with you in response to a subpoena.

Q.—Was Dr. Jenkins, W. H. Jenkins, a member of your staff? A.—I wouldn't question it; I know he is now, and I think he has been for many years.

By Mr. Leahy:

Q.—Do you know any other place we could go to find that by-law? You say you have turned over to the Government all the information you had, in response to the subpoena? A.—It is my understanding—I am perfectly willing to look further, but I gave them what I had and what I was told was a copy of the by-laws in force at that time, which was what the subpoena called for. If I find anything I shall be glad to furnish it.

Mr. Lewin:—I don't believe our subpoena did call for that in this trial. If you will look for it I will be thankful.

MARCH 28—MORNING

TESTIMONY OF CHARLES D. DRAYTON

DIRECT EXAMINATION

Charles D. Drayton, a member of the bar of this Court for about thirty-five years, also a member of the bar of Court of Appeals and of the Supreme Court of the United States, is also a member of the Board of Education, a director of the Children's Hospital for about ten years, and president of the board of that hospital for about five or six years.

Q.—What are the functions of the board of directors of that hospital? A.—They hold monthly meetings and examine questions of general policy.

Q.—Are they the final administrative board of the hospital? A.—They are.

Q.—How many are on the board, Mr. Drayton? A.—Six.

Q.—Will you tell us about the Children's Hospital; not in detail: just what is the Children's Hospital? A.—The Children's Hospital was incorporated under an Act of Congress seventy years ago for the purpose of caring for indigent children under the age of 12 years. It now does 85 per cent charity or part-charity work. It was originally incorporated entirely as a charitable institution, but subsequently they have moved from one place to another and they now have twenty-seven private rooms, from which we derive some revenue; and, of course, our support is largely dependent on our appeal to the public. That is, if we do a good job the public supports us for these charity patients.

Q.—Do you receive any assistance from the community chest? A.—The community chest now buys services from the private hospitals, including Children's, through the Health Security Administration, and they pay for it at less than our cost, and they don't always pay for all the service they contract for with us.

Q.—Do you have staffs in that hospital? A.—We have a medical staff composed of some of the leading doctors in Washington, the chief of whom is Dr. Joseph F. Wall, a leading pediatrician, or child specialist. We also have had from the first of February 1937, a so-called courtesy staff or list. That

staff assumes no obligation to attend the little patients in the hospital whose parents cannot pay for them. They bring their own patients to the private rooms.

Q.—Are there any prerequisites which the hospital has fixed for applicants to the courtesy staff? A.—Well, for a great many years—I don't know exactly when it started—we have had a prerequisite for admission to the general staff of the hospital and it is and has always been that they shall be members of the local Medical Society or ethical society, as it is referred to; and that same rule when the courtesy staff came into being, in February 1937, naturally applied to the courtesy staff.

Q.—Do you recall approximately how many are on the courtesy staff of Children's? A.—I think about eighty-seven, now. I have a memorandum of that, if I may use it.

Q.—Could you refresh your recollection from it? A.—No, I am wrong. The courtesy staff is one hundred and thirty-nine, and the medical staff one hundred and fifty-four; that is, consulting, and all the house doctors, interns and so on. Q.—Mr. Drayton, did you occupy the chair as president of the board of directors during the years 1937 and 1938? A.—Yes.

Q.—During those years 1937 and 1938, was this requirement with reference to membership in the local Medical Society a prerequisite to your recollection, or not, for applicants to practice on the courtesy staff? A.—It was always a prerequisite, yes, in actual effect, but it was not written; that rule was not written, I think, until October, 1937, but it had always been effective.

Q.—Do you recall whether at any time there came under your notice an application for privileges of Children's Hospital of one Dr. Raymond E. Selders? A.—Yes, I think that matter was brought up by the medical staff at a board meeting.

Q.—Do you recall whether there was any correspondence about it? A.—Yes, there was correspondence, I think, in November of 1937, between Miss Gibson, at the direction of the board—Miss Gibson being the superintendent of the Children's Hospital, and Mr. Penniman, who was president of the Group Health Association.

Q.—Have you the file handy here of Children's Hospital? A.—I have some copies that are available, if there is no objection to the copies.

Q.—Mr. Drayton, I will ask you to look at the copies of this series of correspondence in evidence here. We will save time. Now, looking at that correspondence, can you refresh your recollection as to when it was that Miss Gibson, as the superintendent of the hospital, first communicated any information with reference to the application of Dr. Raymond E. Selders, to Mr. Penniman? A.—That appears to have been on Nov. 15, 1937 in a letter addressed by Miss Gibson to Mr. Penniman. Would you like me to read it?

Q.—Yes, read the letter.

The Witness:

“Dear Mr. Penniman:

“At a meeting of the board of directors of the Children's Hospital, held November 15, I was authorized to reply to your letter of November 8 as follows:

“The Children's Hospital will accept for treatment or hospitalization any patient in need of care, under its charter, rules and regulations.

“This pertains to indigent, semi-indigent, and a very limited number of pay patients—as we have only twenty-seven beds available for pay patients.

“All doctors treating these patients while in the hospital must have staff appointments and be members of local medical societies.

“Dr. Raymond E. Selders has made no application so far for staff appointment.

“Yours sincerely,

“Mattie M. Gibson,

“Superintendent.”

Q.—Do you recall now whether you were present at the meeting of the board of directors at which this matter came up concerning which the superintendent wrote on Nov. 15, 1937? A.—I think I was there.

Q.—Doctor, did anything such as is contained and stated in that letter bear any relation at all to G. H. A.?

Mr. Lewin:—Which letter?

Mr. Leahy:—That letter of Nov. 15, 1937.

A.—No, no reference was made to G. H. A. It was addressed to G. H. A., of course.

Q.—Was there any discussion in the board of directors at the time, or out of which meeting came this letter, which we have just read, indicative at all of opposition to G. H. A. as the foundation of this letter? A.—No.

Q.—Did you personally have any correspondence with reference to Dr. Selders' application? A.—I think I did later in 1938.

Q.—Do you recall about what time in 1938 you had that correspondence? A.—I believe that was in November too. It began in the summer when I was up in Maine and there was some delay in responding to the letters from Group Health Association by reason of that, and also by reason of the fact that our board doesn't meet in August and September, so that my replies were somewhat delayed.

Q.—You have copies of your replies with you? A.—No, they have stripped our files at Children's so that I couldn't find those letters, and no return has been made of them, so that I haven't been able to see what they contained.

Q.—I will show you some letters which have been introduced in evidence, Mr. Drayton. First, I will show you what has hitherto been introduced for the prosecution as Government's exhibit 378—it is Mr. Kirkpatrick to Charles Drayton, dated Aug. 6, 1938.

Another, No. 379, dated Sept. 16, 1938, your letter, which has been identified and offered in evidence as Government exhibit 380; and also Government exhibit 381.

Could you, Mr. Drayton, just quickly glance over, beginning with 378, and see if you can refresh your recollection to advise us whether you personally conducted that correspondence, and what it is about?

A.—Well, this is one of Aug. 6, 1938, from Mr. Kirkpatrick to me, thanking me for a letter I wrote him on August 4, in which he says something about taking up with the board of trustees at its next meeting the question of Dr. Selders' admission to the courtesy staff.

The next letter, of September 16, that was simply a tracer from Mr. Kirkpatrick.

Then I told him on September 19, I had overlooked the fact that we had no September meeting of the board, but that just as soon as the matter could be given consideration I would further advise him; and then the last one here seems to be my letter to him of November 2, in which I stated that in view of the proceedings now under way involving Group Health Association it didn't seem possible for us to give any final answer on any aspect of the controversy. Further, that he had theretofore been furnished with a copy of the memorandum of April 1, 1938 embodying the rule promulgated by our medical staff and adopted by our board governing admission to the hospital where an emergency exists, and also the attendance on such children of members of your staff; and I enclosed another copy of that memorandum.

Q.—Do you recall whether the memorandum of April 1, to which you referred, permitted physicians to treat children in Children's Hospital in emergency cases? A.—It did, and that always has been our rule.

Q.—Do you recall whether there was any further correspondence after Nov. 2, 1938, Mr. Drayton? A.—I don't think there was any more, but I am not certain about that; my memory isn't so good.

Q.—At least you haven't been able to locate any copies of other correspondence? A.—My attention has not been called to any later letter.

Q.—Was it your practice to attend regularly the meetings of the board? A.—Yes.

Q.—Do you recall whether at any time there was any action taken by the board with reference to any of this correspondence, which was directed to G. H. A., to restrain it in any way? A.—No, we didn't care anything about G. H. A. We were trying to do the best we could for the hospital.

CROSS EXAMINATION

By Mr. Lewin:

Q.—Mr. Drayton, you just read from a copy of a letter dated Nov. 15, 1937. Now, as a matter of fact, that letter was never sent, was it? A.—So far as I know it was; I have no other information.

Q.—There is in evidence this letter, Government's Exhibit 359, dated Nov. 16, 1937, from the superintendent, Miss Gibson, to Mr. Penniman, and the testimony here is that this is the letter which was received. A.—Well, I don't know; that may be so.

Q.—It differs from the letter you read in this: the letter you read contained this statement:

"All doctors treating these patients while in the hospital must have staff appointments and be members of local medical societies."

whereas that statement is omitted in the letter Miss Gibson sent Mr. Penniman. Now, isn't it true that was omitted at your direction? A.—Not at all; I had no knowledge of it until this moment, that it had been omitted.

Q.—But it seems perfectly clear that another letter was substituted for the one of November 15? A.—It so appears.

Q.—Do you know why? A.—Not at all.

Q.—You attended, did you not, the meeting of the members and incorporators of Children's Hospital held on Dec. 6, 1937? A.—I guess so.

Q.—That was just about three weeks after the letter I showed you was sent by Miss Gibson, was it not? A.—Yes.

Q.—Don't you find there that on December 6, this occurred:

"Only physicians, surgeons, and dentists who are licentiates of the District of Columbia and also members of the District Medical Society or ethical body in their locality shall be eligible for appointment to the medical staff."

"Physicians, surgeons, and dentists not officially connected with the hospital, but members of their ethical medical societies, may be accorded the privilege of using the facilities of the hospital as a matter of courtesy for a term that shall continue during the pleasure of the board of directors, those accepting such privileges to be known as the courtesy staff;"

and some more which I don't believe is particularly pertinent. A.—That seems to be what this shows.

Q.—So, some three weeks after this letter was written, you amended your by-laws for the first time requiring membership in the District Medical Society as a condition to the appointment to your courtesy staff? A.—That appears to be so, but that has been the practice for many years.

Q.—You had only had a courtesy staff for less than a year, had you not? A.—I correctly stated that in my direct, but said that it applied to the medical staff for many years and, thereafter, applied to the courtesy staff when it was formed in 1937.

Q.—You say it applied to the medical staff for many years, but you say it was the custom to apply it to the courtesy staff from February 1937 on? A.—Yes.

Q.—But you had no such regulation during all those years. A.—The courtesy staff was not in existence until early in 1937.

Q.—You had no such regulation until Dec. 6, 1937. A.—Not any written regulation.

Q.—Is it not true that the reason you made this change on Dec. 6, 1937 was that you had just received, five days previously, a letter from Dr. Conklin of the District Medical Society, enclosing a resolution of December 1, of that Medical Society, stating that as a matter of educational policy the hospitals should adopt a rule confining their entire staffs to members of the District Medical Society, or other local societies of the A. M. A.? A.—That had been the custom so long that we were simply following it in putting it in writing.

Q.—Didn't you put it in writing on Dec. 6, 1937 as a result of the receipt of this communication from the Medical Society of the District of Columbia? A.—I say "No," not as a result of it. It may have called our attention to the fact that the practice that we had been carrying out for many years had not been in writing, and resulted in that being done.

Q.—Will you look at this list of members of the outpatient department of Children's which was obtained, I believe, from your hospital, and tell me—this is September 1938—whether all those doctors are members of the District Medical Society? A.—I couldn't tell you; I don't know.

Q.—Now, as a matter of fact, do you know whether Dr. Sigmond Newman, of Virginia, was a member of the District Medical Society or not? A.—He may be a member of the Virginia society, which would be recognized as of the same ethical standard.

Q.—Do you know whether he is a member of that society? A.—No.

Q.—Do you know whether Dr. Stephen Verges is? A.—I don't know. There is no use going through all those and asking me about them, because I don't know.

Q.—As far as you know, there may be a number of them who are not? A.—As far as I know there may be anything about it that I don't know.

Q.—Did the minutes of your meeting of the medical staff of Children's Hospital for April 4 come to your attention? A.—Let me have a look at it. No, I will say this generally. We don't see the minutes of the medical staff.

Q.—This didn't come to your attention? A.—No.

Q.—And you weren't aware of this action that I am pointing out to you there? A.—No, I have no knowledge of this, but I did write the letter to Senator Capper.

Q.—Now, when was Group Health Association or Dr. Selders notified that his application had been rejected at the Children's Hospital? A.—I don't know, Mr. Lewin.

Q.—As a matter of fact, do you know whether he was ever notified? A.—I don't know whether he was definitely notified or not.

Q.—Apparently we have no letter of such notification. I wondered if you ever saw one. A.—No, I have never seen one. I don't believe there was any such letter, after mine of Nov. 2, 1938.

Q.—I am speaking now of the fall of 1937, or the early part of 1938. A.—I doubt he was definitely notified, but I am not familiar with anything to the contrary.

Q.—Did you understand that his application was definitely rejected in the fall of 1937 or the early part of 1938? A.—Well, I think it was rejected by the committee of the medical staff, which passes on those applications, but I am not certain.

Q.—Doesn't the board of directors pass finally on those applications? A.—Well, yes, it is submitted by the staff, but as your Dr. Cabot stated we rely and must rely on the medical staff.

Q.—Do you remember their making a recommendation to you in the latter part of 1937 or early part of 1938 that Dr. Selders' application should be rejected? A.—I really don't; my memory is bad, and there has been a lot of things since that time; it may have been done.

Q.—You don't remember receiving a letter from Mr. Kirkpatrick, calling your attention to Judge Bailey's decision with reference to Group Health; that was written July 28, 1938? A.—Yes, I guess so; it brings it back to me now.

Q.—Isn't it true that was forwarded to you at your summer home in Massachusetts? A.—Yes.

Q.—And you remember that you replied to Mr. Kirkpatrick August 4. I wonder if this would refresh your recollection as to whether he had been rejected before that time. Don't you say:

"As soon as our board meets in September I shall take up the question as to what position we should now take respecting Group Health Association, Inc. and advise you on behalf of Children's Hospital. Since the matter is one of great importance and since our position heretofore has resulted from formal action taken by our board, you will understand that I am not able now to announce any change."

A.—That action by the board may have been of a general nature. I am not sure it was directed to Dr. Selders' application, because the general rule that had always been in effect may have been what I referred to.

Q.—Your impression is that the action of the board requiring membership in the local society was taken with respect to G. H. A.? A.—I didn't say with respect to G. H. A.; I meant in applying the rule that our staff should be recruited from the Medical Society generally.

Q.—When you say, "our position heretofore has resulted from formal action taken by our board," weren't you talking with respect to the action taken by the board in regard to Group Health, which you mentioned in the sentence just before that? A.—It may have been that; it may have been the general rule or it may have been some specific objection to Dr. Selders' application.

Q.—In any event, what you told Mr. Kirkpatrick was that you would take up the question of your position as regards Group Health in the fall of 1938, and not as regards Dr. Selders. A.—That may be and then subsequently I found we didn't have a meeting in September.

Q.—And when you said the matter is "one of great importance," weren't you referring to your decision with regard to Group Health? A.—Oh, the whole problem of Group Health; that is true.

Q.—Then, I believe it is true, isn't it, that you wrote Mr. Kirkpatrick and told him you would take the matter up with the board at its meeting in September, and then, in September, after receiving another letter from Mr. Kirkpatrick, you told him you were under a misapprehension, that the board had not met in September—and then you say your letter of Nov. 2, 1938 is the last communication on the subject; is that right? A.—The last I know about.

Q.—And that was just about a year after Dr. Selders had applied for privileges? A.—Yes, he had correspondence—Mr. Kirkpatrick with Miss Gibson, and she had given him what we regarded as some definite answer.

Q.—That is what I was looking for. Can you find any definite answer? A.—I mean in advising him that in order to practice in the hospital he would have to be a member of the staff, and then placing back of that the thought that members of the staff must be members of the local medical society. That would seem to have been somewhat of an answer; not as direct and definite, perhaps, as you would like, but an answer.

Q.—Did you know at the time that Dr. Selders himself was a member of the Harris County Medical Society, a constituent society or component body of the A. M. A.? A.—I don't know whether I heard that since or before.

Q.—Did his application show that to you? A.—I never saw his application because, as I say, we leave that to the medical staff to pass on.

Q.—Would that have brought him under the operation of this rule which you adopted in the early part of December, 1937? A.—Oh, you mean the rule concerning membership in the local society or ethical body?

Q.—Yes. Would that have brought him under that rule? A.—That fact alone, if he had been in good standing and recognized as qualified to do the things that he claimed able to do, and made application to do, I would say yes.

Q.—Well, do you know whether he was, or not? A.—Whether he was qualified or not?

Q.—Yes. A.—I know that the medical staff didn't think so and they made inquiries concerning him, and rejected him for that specific reason.

Q.—Do you know what inquiries the medical staff made? A.—They inquired of the College of Surgeons.

Q.—You mean the Washington Academy of Surgery? A.—Yes.

Q.—Did they refer his application to the Washington Academy? A.—They asked it concerning this man's qualifications; his application having been for all sorts of surgery at Children's Hospital.

Q.—Did Dr. Selders give you some references? A.—Probably so.

Q.—Did you write to his references? A.—I presume so and I am aware of one letter written to the Worcester Hospital, of which I have been told.

Q.—That was written by your medical staff? A.—Yes, Dr. Titus wrote the letter and had a reply. He is a member of our staff.

Q.—And he wrote it in his capacity as a member of your staff? A.—I don't know in what capacity he wrote it, but he wrote a letter and the report was adverse on Dr. Selders.

Q.—I wonder if we might have that letter. A.—Well, you will have to get it from Dr. Titus. I haven't it. I am trying to answer your questions as best I can. I am not submitting that letter, because I haven't got it.

Q.—Are you positive that you saw it in the files of the Children's Hospital in response to a letter from your staff making inquiry on the subject?

Mr. Leahy:—He didn't say that.

The Witness:—I didn't say I saw it in response to a letter of our staff. I said I had been told such inquiry had been made.

Q.—You don't know whether your staff or any member representing it communicated with any of Dr. Selders' references?

Mr. Richardson:—He said he did know. He said Dr. Titus did and that Dr. Titus was on their staff.

THE COURT:—He very carefully told you he didn't personally know what went on; that the medical staff took care of those matters, and then you asked him if he heard concerning it, and he answered that question.

By Mr. Lewin:

Q.—Well, I will see if I can make this clear: Do I understand that in the files of the Children's Hospital you have at any time had a letter from Dr. Selders' references? A.—I haven't examined that file; in fact, it was taken over by the Government.

Q.—Did you respond to the subpoena? A.—Yes.

Q.—Did you produce any such letter? A.—I wasn't asked for any such letter.

Q.—Well, such files were not taken over by the Government. A.—There was some indication later that a great many of the letters were taken.

Q.—Do you know, as a matter of fact, that the Government has received any such letter as you describe? A.—No, I said I hadn't seen any such letter.

RE-DIRECT EXAMINATION

By Mr. Leahy:

Q.—Now, in writing your letter of November 2 to Mr. Kirkpatrick, which you state is the last letter you now have any recollection about, I want to ask you about what you referred when you stated:

"I have not been more prompt in replying to your several communications dated July 28 and Aug. 6, 1938, asking that Dr. Raymond E. Selders, a member of your staff, be admitted to the courtesy staff of the Children's Hospital, and that he may attend members of your Association admitted as patients there, for the reason that, in view of the several court pro-

ceedings now under way involving Group Health Association, Inc., it did not seem possible for us to give any final answer on any aspect of the controversy."

What were you referring to when you said:

"In view of the several court proceedings now under way involving Group Health Association, Inc.?"

A.—All of them were not perhaps court proceedings. I was aware, however, that the Corporation Counsel—

Mr. Kelleher:—We object to that, not responsive to the question.

Mr. Leahy:—I think we have a right to know what he referred to in this letter. The letter is in evidence.

THE COURT:—He may answer.

The Witness:—The whole atmosphere was charged with doubt about the legal status of Group Health, as witness the Corporation Counsel's opinion to the effect that it was—

Mr. Lewin:—Did you receive the opinion?

The Witness:—No, but I was informed what it was.

Mr. Lewin:—Well, I object to it then.

THE COURT:—I don't think he may go into details of it.

Mr. Leahy:—No, just the fact that there had been an opinion; that he was informed of it, as explaining this letter.

Mr. Lewin:—I want to object to him testifying to something which is immaterial and outside the issues of this case.

THE COURT:—He is stating his reasons why he wrote that letter; the reference he was making in it. It doesn't make any difference how he got the information. It is part of the explanation for the letter, so the jury may understand what he meant when he wrote it.

A.—Judge Bailey's decision, I think, was in August, 1937. Of course, that was favorable to G. H. A., after they had changed the by-laws, and so on; and then there was a possibility—in fact, it was understood that further action was being taken to determine this question, or might be taken. The whole thing was in doubt, in view of the pendency of these several matters in the court, or in legal channels. Therefore we felt that we were not in position then to do business with a group whose legal status was in doubt.

TESTIMONY OF SAMUEL H. ROGERS

DIRECT EXAMINATION

By Mr. Leahy:

Q.—Just to refresh your recollection and everybody's recollection, you have some connection with Casualty Hospital? A.—President of the board of directors.

Q.—I want to direct your attention to a meeting which has been testified about before, at which a Mr. Loomis and Kirkpatrick, and you, as representative of the hospital, conferred together sometime in 1938. Do you recall the meeting to which I refer? A.—I do.

Q.—Do you remember now who was present? A.—We had two meetings.

Q.—Do you remember a meeting at which Mr. Loomis and Mr. Kirkpatrick were present? A.—I do.

Q.—And the subject was discussed as to whether they could take over a wing or bay of your hospital? A.—That proposition was made, yes.

Q.—And do you recall whether at that meeting, Mr. Kirkpatrick discussed the matter with you? I don't mean you alone, but your group, representing the hospital? A.—Yes, I do.

Q.—Do you remember at that time Casualty Hospital was approaching its fiftieth anniversary? A.—I do remember that very distinctly.

Q.—Was anything said by Mr. Kirkpatrick as to what he would do for Casualty in the event that Casualty would permit him to take over the wing or bay of the hospital? A.—Well, it is just hard to recall which one of the representatives gave the thought. I could hardly say whether it was Mr. Kirkpatrick or Mr. Loomis, but they did point out that it would be an excellent time for us to get some favorable publicity by joining in with Group Health, who had been favored with a great deal of publicity and was being favored with a great deal of publicity at that time.

Q.—Did they say anything to you at that time about having one of the best publicity agents in the world?

Mr. Lewin:—Objected to.

THE COURT:—It is a leading question.

Mr. Leahy:—I think I asked Mr. Kirkpatrick that question and I am just offering this in connection with his answer.

Mr. Lewin:—It is an immaterial statement anyway.

THE COURT:—I don't know whether it is immaterial or not. Mr. Kirkpatrick went into this conference.

Mr. Lewin:—But he didn't talk about publicity agent.

THE COURT:—He probably talked about certain things in connection with it. If so, the rest of it is admissible. It all had reference to the hospital. Proceed.

The Witness:—It was brought to our attention that they had excellent publicity and I couldn't recall the words exactly, but certainly it amounted to the same thing; that they had a very excellent publicity man.

Q.—Did they say anything about what power they had in Congress?

Mr. Lewin:—Objected to as totally immaterial.

THE COURT:—I think we should let the witness testify. I don't think you should lead him.

By Mr. Leahy:

Q.—Will you tell us in your own way just what was said there? A.—They told us that high officials of the Government were very much interested in this movement and that members of Congress were very much interested in it; they didn't mention who or how many. They let us know they had the backing of Government officials and at least some members of Congress.

Q.—Do you recall whether anything was said in the conference with reference to the corporate capacity of the Casualty Hospital to lease a wing? A.—That proposition was made; that they might lease a wing. They had previously had representatives go through the hospital and it happened at that time that we were not crowded; different than it is at some times; today, especially; and that proposition was made. Of course I told them that we were organized for a definite purpose and that didn't fit in with the definite purpose.

Q.—What was the definite purpose you stated? A.—That purpose was and is to maintain an institution for furnishing emergency medical and surgical service and hospitalization to all, regardless of race, color, religion, or ability to pay.

Q.—What did they say about that? A.—Well, I couldn't hardly recall what they said. They, of course, let us know they were not interested in that part of it. They were definitely interested in taking care of Group Health patients and having Group Health doctors attend them.

Q.—Was any arrangements kept after this conference between G. H. A. and Casualty? A.—No, at the second conference we told them we didn't see how we could change our setup to suit their requirements.

TESTIMONY OF HENRY ROLFE BROWN

DIRECT EXAMINATION

Henry Rolfe Brown, retired in June, 1937. He took his medical course in the University of New York, graduated in 1889, and served an internship at Bellevue Hospital, New York. He engaged in private practice in San Francisco until 1898, then moved to Providence, Rhode Island, until 1916, and then joined the army, as a member of the Medical Corps. He remained in the Medical Corps about two years and was overseas. Following return from service overseas, after having a nice rest he went into the Veterans' Administration, operating and organizing hospitals beginning in 1921.

Q.—Do you recall now how many hospitals you supervised the administration of? A.—I organized the Veterans Hospital in Rutland, Massachusetts; spent three or four years there, then transferred to Aspinwall, Pennsylvania, just opposite Pittsburgh; stayed there for ten years, and then came into the Veterans Administration in Washington where I was put in charge of all tuberculosis hospitals throughout the United States, and where I remained until I was retired in June, 1937.

Q.—How many such tuberculosis hospitals are there under the direction of the Veterans Administration? A.—About twenty, at that time.

Q.—Now, do you recall at any time, Doctor, that you were approached by Group Health Association for the purpose of having you head the organization as medical director? A.—Yes, a Mr. Otterman, of H. O. L. C., Home Owners' Loan, approached our medical director, Dr. Griffith, in the Veterans Administration and asked him if there was any member of his staff who would be interested in such a venture. He got in touch with me and talked the matter over two or three times, and laid out the plans for the organization of Group Health Association; and I believed then, as I do now, that such a thing would be a very valuable thing for the community, especially those in low income groups; and being very much in favor of such a thing, I went into it with the idea of developing and making it a success.

Q.—Do you recall when those conversations began? A.—March or April 1937.

Q.—Do you recall now whether a time arrived when definite arrangements were made with you to become the medical director? A.—That was the latter part of April.

Q.—Can you recall when you first met him? A.—I believe I first met Dr. Neill at a meeting of the Executive Committee of the Group Health at the Medical Society Building on M Street.

Q.—Do you remember what date that was, Doctor? A.—I don't believe I do, Mr. Leahy. I don't just recall that date.

Q.—Do you recall whether you ever met Dr. Neill at Mr. Childers' house? A.—Yes, I did.

Q.—Do you recall whether that was before this meeting at the Medical Society or following it? A.—Following it.

Q.—Following it. Who else was there at Mr. Childers' house on that occasion, Doctor? A.—Mr. Childers, Mr. Penniman, Mr. Zimmerman, Mr. Russell, and myself.

Q.—Do you recall in what capacity Mr. Penniman was acting then? A.—He was president of Group Health at that time.

Q.—And Mr. Zimmerman? A.—Mr. Zimmerman never had any position in Group Health but was the real man behind the operation of it.

Q.—And Mr. Russell, did you say? A.—He was the legal advisor and chief counsel of H. O. L. C.

Q.—And in what capacity were you there that night? A.—I was there as Medical Director. I had already assumed the office of Medical Director.

Q.—And I want to ask you, Dr. Brown, whether at that meeting in Mr. Childers' house Mr. Penniman offered the position of Medical Director to Dr. Neill? A.—Not to my knowledge.

Q.—You were there during the entire conversation? A.—I was there during all the time.

Q.—And you had already been employed as Medical Director then? A.—I had already been employed as Medical Director.

Q.—Now, do you recall, with relation to that meeting at Mr. Childers' house, when the meeting was at the District Medical Society? A.—My recollection is that it was at some time in July, I think along at the end of July or the beginning of August. I know the weather was quite warm, but I can't fix the date exactly.

Q.—Do you recall who was present at that meeting, Doctor? A.—Well, I have just told you.

Q.—I mean at the Medical Society. A.—Well, I don't remember all of them. I remember Dr. Neill and Dr. Groover and Dr. Macatee. I really don't remember all of them. There were quite a number.

Q.—Who was present with you? A.—Mr. Zimmerman and Mr. Penniman.

Q.—Do you recall how you all happened to meet that evening at the Medical Society? A.—We had discussed it several days before, and finally I was called on the telephone and asked to meet Mr. Penniman and Mr. Zimmerman at the Mayflower Hotel where we were to have dinner together and then proceed to the medical meeting.

Q.—Do you recall whether that was the first time that you had met the members of the District Medical Society with regard to the subject matter discussed? A.—That was the first time that I had met them.

Q.—Now, in pursuance of the arrangement did you or did you not meet at the Mayflower Hotel? A.—Yes.

Q.—To the Medical Society Building? A.—We met there and had dinner there.

Q.—Who was at dinner with you? A.—Mr. Zimmerman and Mr. Penniman.

Q.—And there did you discuss what you should say at the meeting with the District Medical Society? A.—My inquiry was what we were meeting for, and they said they were meeting—

Mr. Levin:—Objected to.

A.—at the Medical Society—

Mr. Levin:—Objected to as to what they said.

THE COURT:—What is the purpose of this?

Mr. Leahy:—You will recall that both Mr. Penniman and Mr. Zimmerman stated that at this meeting—

Mr. Levin:—Well, wait a minute. Wait a minute. I have objected to that. Now, I don't want it led.

THE COURT:—Sir?

Mr. Leahy:—Do you want us to go to the bench?

Mr. Keller:—No; he is addressing the Court.

Mr. Levin:—I thought you were asking a question.

Mr. Leahy:—No. I was addressing his Honor.

Mr. Levin:—I am awfully sorry.

Mr. Leahy:—Do you want us to go to the bench?

Mr. Levin:—Yes, let us go to the bench.

Mr. Leahy:—All right.

(Counsel for both sides approached the bench and conferred with the Court, in a low tone of voice.)

By Mr. Leahy:

Q.—Doctor, you had just told us that you made an inquiry of Mr. Penniman and Mr. Zimmerman at dinner as to what was the purpose of the meeting. Did they advise you at that time of the purpose? A.—They said that the meeting was for the Society and Group Health to try and get together on the organization of Group Health.

Q.—Then did you discuss as to how much information you should give the District Medical Society at this meeting? A.—I said, "What information are you going to give them, and how far do you want to go with them in their plans?" And the replies from both of them were to go just—not to do any more and not to go any further than necessary, to tell them as little as possible.

Q.—And following that did you then go to the meeting of the District Medical Society? A.—We did. We walked from the Mayflower to the Medical Society on M Street.

Q.—Do you recall now whether, as you were about to enter the room where the meeting was to be held, there was anything further said about what should be done? A.—The last thing I recall was, "Now don't forget, we'll give them just as little as possible," or words to that effect.

Q.—Do you recall how long that meeting lasted, Doctor? A.—Yes. It lasted an hour and a half, perhaps.

Q.—And do you recall whether the advice which you received there was followed out? A.—Pretty fairly, yes.

Q.—Do you recall any other meetings now that the District Medical Society ever had with the trustees or any members of the Board? A.—Yes. There was an arrangement made at that first meeting to meet the Board of Trustees in the H. O. L. C. assembly room at a later date to be fixed.

Q.—And were you present on that occasion, Doctor? A.—I was.

Q.—Do you remember who else was present for H. O. L. C. on that occasion? A.—Almost all of the Board of Trustees were present, and a great many of the committee from the Medical Society.

Q.—Do you recall whether anything further was done at that meeting than allow the District Medical Society members to make some remarks? A.—That meeting was not as satisfactory, I don't think, as the first meeting. Dr. Groover, I think, did most of the talking at that meeting and told us a great deal about the failures of such organizations in different parts of the country and abroad.

Q.—After that did you ever have any other formal meetings of any kind between the District Medical Society and Group Health? A.—Not when I was present, no; not any.

Q.—And how long, may I ask at this point, Doctor, were you Medical Director of G. H. A.? A.—I beg your pardon?

Q.—Over what period of time were you the Medical Director of G. H. A.? A.—From the payroll date of June 7th until the 30th of April, 1938.

Q.—Do you recall, Doctor, when you first became the Medical Director, what arrangements had been made with the hospitals in the District of Columbia, if any, for the reception of patients of G. H. A.? A.—There had been none made.

Q.—Did you, as Medical Director, make any efforts looking toward that end? A.—I had a meeting with Mr. Zimmerman and Mr. Penniman at lunch in the cafeteria at H. O. L. C., and it was decided I would—

Mr. Levin (interposing):—Now, I object.

A.—approach—

Mr. Levin:—Wait just a minute. I object to his conversation with Mr. Zimmerman and Penniman.

THE COURT:—Unless I know about what it is I would not be able to pass on it.

Mr. Leahy:—Should I approach the bench and tell your Honor?

THE COURT:—I will have to know what it is to determine whether it is admissible.

(Counsel for both sides approached the bench and conferred with the Court, in a low tone of voice.)

By Mr. Leahy:

Q.—Doctor, I think you were just telling us of a conversation which you had with Mr. Penniman and Mr. Zimmerman with reference to arrangements to be made with the hospitals for the reception of patients of Group Health. A.—We met at this lunch at the cafeteria, and it was decided that I would approach the hospitals on the question of courtesy privileges for members of our staff.

Q.—Did you so approach the hospitals? A.—I did. I went first to the Emergency Hospital where I contacted Mr. Sandidge, who referred me to Mr. Gist Blair in the Union Trust Building.

Q.—Did you see Mr. Blair? A.—I did.

Q.—And then did anything occur, Doctor, which interrupted those negotiations which you were having? A.—Major Blair asked me to submit a letter requesting what our desire was. I went down to the office, and in the meantime my office had been in with Mr. Zimmerman at the H. O. L. C. That was my headquarters. I formulated a letter requesting privileges at Emergency Hospital, as suggested by Major Blair, and submitted it to Mr. Penniman. Mr. Penniman contacted Mr. Zimmerman, and it was decided that we would meet again the next day at luncheon in the cafeteria where we had a great many meetings.

Q.—And did you meet the next day at luncheon? A.—We met the next day, and I was advised at that meeting that they would take care of the hospital situation: that I need give it no further thought.

Q.—And following that what did you ever do? A.—Nothing whatever.

Q.—What occurred with reference to the mail from hospitals coming to you?

Mr. Lewin:—Objected to.

Mr. Leahy:—Same line, if your Honor please.

THE COURT:—The mail coming to him?

Mr. Leahy:—Yes.

Mr. Lewin:—Well, was there? Was there mail coming to him?

Mr. Leahy:—Well, I will ask that.

By Mr. Leahy:

Q.—Did mail come to you, Doctor, from hospitals? A.—It came to the clinic on I Street. A great many of those letters were directed to the I Street Clinic. That was the headquarters of G. H. A., and they were usually directed to the Medical Director.

Q.—Now, did you receive any instructions about mail which was directed to the clinic and to the Medical Director? A.—Yes. I opened several of those letters which were directed to the Medical Director; and they were, some of them, from the hospitals, and I would return those to Mr. Zimmerman or Mr. Penniman. Later I was instructed not to open any mail; to send it unopened to them.

Q.—From that time of the second luncheon down at H. O. L. C., what authority did you have to deal with the hospitals at all as a Medical Director? A.—None whatever.

Q.—And who did deal with the hospitals, to your knowledge? A.—I think most of it was done by Mr. Penniman.

Q.—Do you recall; Doctor, when the clinic itself opened up? A.—On November 1.

Q.—At that time had you a staff? A.—Yes.

Q.—Do you recall whether one of the members of the staff was Dr. Raymond E. Selders? A.—Yes. I employed Dr. Selders.

Q.—For what purpose did you employ Dr. Selders? A.—I employed him as a surgeon for the clinic, to do the minor surgery of the clinic.

Q.—Did you ever employ him to do general surgery of all kinds? A.—No, he was not employed for that reason.

Q.—And did you consider him competent to do general surgery, Doctor?

Mr. Lewin:—Oh, wait a minute. Objected to.

THE COURT:—Objection overruled. Answer the question.

The Witness:—No, I do not think he was competent to do general surgery.

By Mr. Leahy:

Q.—Now, why do you say that, Doctor? A.—Because he hadn't the training or the qualifications.

Q.—Did you personally have anything to do with the hospitals of Washington, trying to get privileges to do general surgery in those hospitals for Dr. Selders? A.—No, I did not.

Mr. Lewin:—Now, wait a minute. He has already testified about that, that he had no further contact with hospitals.

THE COURT:—Well, yes, I think that is true.

By Mr. Leahy:

Q.—Now, Doctor, with reference to the operation of the clinic, itself, what was your authority therein as the Medical Director? A.—My agreement in the beginning was that I was to take complete charge of the medical direction of the clinic and of Group Health, and I accepted the position on that ground. But they didn't need a medical director there, it soon developed. They needed a rubber stamp. That was all that was required.

Q.—In other words, what did the Board of Trustees do so far as you were concerned, with reference to those duties which were assigned to you as the Medical Director? A.—Well, they took them over themselves, most of them.

Q.—And who were those who took them over? A.—Mr. Zimmerman, Mr. Penniman, generally.

Q.—Doctor, do you recall now how the operations of the clinic proceeded, after it got going? A.—I don't just get the idea of your question, Mr. Leahy.

Q.—With reference to the efficiency of its functioning. A.—When it began, it functioned very efficiently, because we didn't have so many patients. On a small staff of four or five we could handle the patients very well; but gradually they crowded in so that we couldn't give attention to the patients on account of the great numbers of patients with a few doctors.

Q.—And did you have complaints from the doctors and members of the staff about that? A.—Yes.

Q.—Have you any idea, Doctor, as to how many patients a single doctor in a clinic of that character can see reasonably in a professional manner during the course of a day? A.—Of course, it depends very largely on the class of patients or conditions that you meet, but the average would be 20, 25 patients a day, would be a good hard day for any doctor in a clinic of that kind.

Q.—And do you recall, after the clinic opened and when the patients began coming in, how many patients the doctors would be required to see in the course of a day? A.—Well, it ran as high as 60 a day.

Q.—Do you think that a doctor can give efficient service, Doctor, to as many as 60 patients in a day? A.—I do not.

Q.—And how long did this condition continue, Doctor, that you have told us about? A.—As long as I was associated with the Group.

Q.—Doctor, I think you stated that you employed Dr. Selders. A.—I did.

Q.—What was your practice with reference to the agreement? Did you ever have written agreements, or were they verbal? A.—They were all verbal. There never was a written contract or agreement.

By Mr. Leahy:

Q.—Do you recall, Doctor, having employed Dr. Lee? A.—I do.

Q.—Did you employ him under a verbal or written contract? A.—Verbal.

Q.—Do you recall employing Dr. Scandiffio? A.—I do.

Q.—Did you employ him under a written or a verbal contract? A.—Verbal.

Q.—Do you have any knowledge now of what I referred to when I mentioned that there were two proposed written contracts submitted here in evidence? A.—Those contracts were gotten up for the sole purpose of presenting them to the Medical Society. They were not in existence before the hearing of Dr. Scandiffio at the Medical Society.

Q.—And who prepared those contracts? A.—I think they were—Mr. Neuman and Mr. York of the Legal Department of H. O. L. C. prepared them.

Q.—Do you recall, Doctor, whether you discussed with both Dr. Lee and Dr. Scandiffio the question of what they should do when they became members of Group Health? A.—After they had become members they asked me what they should do, resign from the Society or not. My advice was that they resign from the Society; that I did not belong to the Society, therefore was without their jurisdiction and expected nothing from them.

Q.—And do you know whether, now, in pursuance of that advice that you gave them, they did resign from the Society? A.—They did.

Q.—Then do you know whether after they had tendered their resignations somebody advised them to the contrary?

Mr. Kelleher:—Just a second.

The Witness:—They withdrew their contract—their resignation.

Mr. Leahy:—Just a moment.

Mr. Kelleher:—Excuse me, Doctor Brown. The question is, Do you know?

The Witness:—I do know.

Mr. Kelleher:—Will you bring out how he knows it?

Mr. Leahy:—All right.

By Mr. Leahy:

Q.—How do you know that, Doctor? A.—Because they both told me so.

Mr. Kelleher:—We object to that, your Honor.

By Mr. Leahy:

Q.—Do you know as a fact that they did withdraw those resignations after, following your advice, they had resigned?
A.—I do.

Q.—You attended the hearings, didn't you, Doctor? A.—Yes.

Q.—Do you know that when they tendered those resignations they accompanied—or rather, when they withdrew their resignations they accompanied that withdrawal with a letter, each one of them, identical in terms? A.—They said they had done that. I didn't know it, only from them.

Q.—I see. Do you know who was on the legal staff at that time?

Mr. Kelleher:—Of what organization? Legal staff of what?

Mr. Leahy:—H. O. L. C.

The Witness:—Mr. York, Mr. Neuman were the principal advisers, and Mr. Russell.

By Mr. Leahy:

Q.—Was Mr. York present at the trial of Mr. Scandiffo?
A.—He was.

Q.—Dr. Scandiffo. Was Mr. Russell? A.—He was.

Q.—Was Mr. Neuman? A.—He was.

Q.—Was Mr. Keely? A.—Yes.

Q.—Pardon me just a moment. Doctor, further on the question of the operation of the clinic, I wish to ask you this: whether or not Mr. Penniman and Mr. Zimmerman were accustomed to—

Mr. Lewin:—Now, I object to that. It is apparently leading. Apparently leading.

THE COURT:—I haven't got enough of it to determine.

Mr. Leahy:—To tell you the truth, your Honor, I haven't had the thing in mind yet.

Mr. Lewin:—Well, it starts out like a very leading question, to me.

THE COURT:—Well, let us try to avoid leading questions, Mr. Leahy.

By Mr. Leahy:

Q.—I will put it this way, Doctor, to you: Can you give us any other instance of where Mr. Penniman or Mr. Zimmerman displayed any interest in the operation of the clinic and its general administration by you? A.—Displayed a great deal of interest in the clinic, interfered quite frequently in small things, and would frequently meet Dr. Selders and other members of the staff outside of the clinic and discuss matters that should properly have come before the Medical Director and, through him, to the trustees. There was a great deal of interference in many ways.

Q.—Any inquiries with reference to the number of patients treated or how they were treated? A.—I don't think so; not that I recall.

Q.—When was it, again, you said that you left G. H. A., Doctor? A.—April 30, 1938.

Q.—Do you recall, Doctor, whether just before you left you became ill? A.—I certainly do.

Q.—And how long were you ill? A.—About a month, six weeks.

Q.—What time was it you were ill? A.—In February I became ill with pneumonia following a very bad cold, and was ill up through March.

Q.—Do you recall, Doctor, now, how the staff was selected for the clinic? A.—I selected the staff, both professional and lay, almost entirely, with one exception, and that was Dr. Dabney, whom I had contacted and was asked to present him to the Board of Trustees. Later I received a telephone call—

Mr. Lewin (interposing):—Just a minute.

A.—to send Dr. Dabney—

Mr. Lewin:—Just a minute. Just a minute, Dr. Brown.

By Mr. Lewin:

Q.—In pursuance of the telephone call did you send Dr. Dabney anywhere? A.—To Mr. Loomis and Mr. Russell, who employed him.

Q.—Then, you, as the Medical Director, did not arrange the employment of Dr. Dabney? A.—I did not.

Mr. Lewin (sotto voce):—He was ill at the time.

By Mr. Leahy:

Q.—And in what capacity was Dr. Dabney to serve on the staff? A.—The nose and throat specialist.

Q.—Doctor, did you know Mr. Kirkpatrick? A.—Yes, I did.

Q.—When did you first meet him? A.—I met him early in the organization of Group Health, at the H. O. L. C. Building.

Q.—Did he have any position in H. O. L. C.? A.—He was the second president of the Group Health and was vice-president under Mr. Penniman.

Q.—How frequently, if at all, was he in? A.—I didn't get that.

Q.—How frequently was he in the clinic? A.—Until he was president he didn't take much interest in the clinic.

Q.—And when did he become president? A.—He followed Mr. Penniman and then took over the prerogatives of the office of president of Group Health and was frequently at the clinic.

Q.—And what was his attitude toward you? A.—His attitude was—

Mr. Lewin:—Wait a minute. I object to that.

By Mr. Leahy:

Q.—In reference to your administration of the clinic. A.—Why, satisfactory, I think.

Q.—Was anything done at all toward contacting patients or anything of that sort? A.—Yes. They circulated a great deal among the patients when they came to the clinic. Just what occurred, I don't know.

Q.—By the way, at any time did Mr. Penniman and Mr. Zimmerman express to you in any way what their opinion of doctors was, in general?

Mr. Lewin:—Objected to.

The Witness:—Yes.

Mr. Lewin:—Wait a minute. Objected to.

THE COURT:—"Doctors in general"?

Mr. Leahy:—Yes.

THE COURT:—Well, that is a pretty broad question.

Mr. Leahy:—That is right.

THE COURT:—Sustain the objection.

By Mr. Leahy:

Q.—Didn't they at any time manifest in any manner their opinion towards the doctors of organized medicine?

Mr. Lewin:—Objected to as completely irrelevant, immaterial, incompetent.

THE COURT:—It is completely irrelevant except for the possible bias it may show in the testimony of the witnesses.

Mr. Leahy:—That is it.

THE COURT:—If they had any ill feeling towards doctors and organized medicine, it might affect their testimony here. Objection overruled.

The Witness:—Their attitude toward the profession generally was not at all good.

Mr. Lewin:—Wait just a minute.

The Witness:—They held doctors in more or less contempt.

Mr. Lewin:—Wait just a minute.

THE COURT:—I think that is a little broad: the doctors in contempt.

Mr. Lewin:—I move that be stricken, may it please the Court.

THE COURT:—Yes, that will be stricken. The question is what if anything they said antagonistic to doctors and organized medicine.

Mr. Leahy:—Yes.

The Witness:—They very frequently, especially Mr. Penniman, presented me with anything that was—

Mr. Lewin (interposing):—Wait.

A.—against the doctor.

Mr. Lewin:—Wait. Objected to, and move that be stricken.

Mr. Leahy:—That is all right.

Mr. Lewin:—Now, he hasn't said what Mr. Penniman said about any particular doctors and organized medicine.

THE COURT:—I think the question is what he said, what he may have said with reference—

Mr. Leahy:—Well,—

Mr. Lewin:—May that be stricken, your Honor?

Mr. Leahy:—Just a moment, please.

THE COURT:—Just a minute. I will see, Mr. Leahy.

Mr. Leahy:—The point is, if your Honor please, that Mr. Penniman would present certain things to him which were derogatory to doctors and the medical profession, and then they would have statements about it.

Mr. Lewin:—Well, now, that is—

THE COURT:—Then they would have what?

Mr. Leahy:—Then they would have talk back and forth about it.

THE COURT:—Conversation?

Mr. Leahy:—Yes.

THE COURT:—Well, then if that is merely preliminary to the conversation, he may show it. I don't think otherwise it would be competent.

Mr. Leahy:—Well, that is what I intended the question to elicit, your Honor.

THE COURT:—Proceed.

The Witness:—Shall I proceed?

Mr. Leahy:—Yes.

The Witness:—One day Mr. Penniman came in with a very scathing article from a West Coast paper regarding a patient in a hospital out there, and he passed it to me to read. It was a very nasty article. I read it very slowly, and after reading it I passed it to Mr. Penniman, and said, "Mr. Penniman, you don't want to forget that I am a doctor, and I don't want any more such things from you."

Mr. Lewin:—Wait. Objected to.

The Witness:—After that there was nothing ever said further on that subject.

Mr. Lewin:—Wait just a minute now. I move, then, that that be stricken, with regard to some article against a West Coast doctor, and nothing transpired except that.

Mr. Leahy:—Oh, no; that wasn't it.

Mr. Lewin:—Totally—

Mr. Leahy:—A scathing article about doctors, growing out of an incident on the West Coast.

Mr. Lewin:—Removed from this case by the breadth of the continent, and nothing said with regard to it, except that he hands him this article.

The Court:—It may go out. I think that may go out. It is rather indefinite.

Mr. Leahy:—I beg your Honor's pardon.

The Court:—I think it is rather indefinite. I assumed, from what you told me, that what followed elicited certain derogatory remarks from Mr. Penniman himself; but apparently, as the doctor states, there was nothing said by Mr. Penniman.

By Mr. Leahy:

Q.—Well, had Mr. Penniman, Doctor, ever said anything to you of the character or type contained in the article?

Mr. Lewin:—I object to that because he has just said he said nothing more except give him the article.

The Court:—I don't know whether he said it or not, but he may say now whether Mr. Penniman made any remark to him in that conversation.

The Witness:—He did at that time and on many previous occasions; he would hold the doctors in more or less disdain and state, "Well, they don't amount to much."

Mr. Lewin:—Well, wait. I object to that as a conclusion. We ought to have what he said.

By Mr. Leahy:

Q.—Well, tell us what he said, as best you recall, Doctor?

Mr. Richardson:—The substance.

The Witness:—Well, he said, "They are not up to date. They are not businesslike." They don't know how to do this, and they don't know how to do that. A lot of trivial stuff; it didn't amount to anything. It only showed his attitude; that was all.

Mr. Lewin:—I object to the fact that it showed his attitude.

The Court:—Well, that may go out.

By Mr. Leahy:

Q.—Well, now, Doctor, there has been some testimony here that there were a number of, I think they call them, elective operations when Mr. Kirkpatrick took office. Do you recall whether there were or were not members of Group Health who had elected to be operated on? *A*.—Yes, there were quite a number.

Q.—Could you tell us, what is the difference between an elective operation and any other kind of operation? *A*.—An elective operation is one that can be done at any time. An emergency operation is one requiring immediate attention.

Q.—Have you any idea now as to about how many such elective operations there were while you were there? *A*.—Quite a few. I don't just recall how many, but 60, 75, something of that kind.

Q.—And do you know now why it was that those elective operations were not performed? *A*.—Well, some of them were major operations, and I didn't want Dr. Selders to do them, unless they were simple cases. And the other was that the hospitals were not admitting the cases, although we admitted all emergency cases to the hospital, or those that were supposed to be emergency cases.

Q.—And do you recall at that time what the funds were in order to perform an operation?

Mr. Lewin:—Objected to.

The Court:—I don't understand just what the situation is.

Mr. Leahy:—Mr. Kirkpatrick stated. He said the only reason why these elective operations couldn't have been performed is that Dr. Selders was not allowed to go in the hospital.

Mr. Lewin:—Well, now, this witness has given two reasons why they were not done.

Mr. Leahy:—No. He has given one.

Mr. Lewin:—He has given two.

Mr. Kelleher:—He has given two.

Mr. Leahy:—Well, there might have been 20.

Mr. Lewin:—Well, that is—

The Court:—Well, if Mr. Kirkpatrick said there was only one, and there were several, why, I suppose we might as well have them all now.

Mr. Lewin:—Well, now, then, let us qualify this witness on the finances, then, if you can do that.

The Court:—It isn't a question of finance. It is a question of what instructions, if any, he had with reference to the handling of such matters, if he had any, from either Mr. Kirkpatrick or Mr. Penniman.

Mr. Lewin:—Oh, that wasn't the question, your Honor.

Mr. Leahy:—I will ask that. I will adopt his Honor's question.

The Court:—I thought that is what you had in mind.

Mr. Leahy:—That is what I had—

The Court:—That is what I thought.

By Mr. Leahy:

Q.—What instructions, if any, did you have from any of the responsible officials of G. H. A. with reference to dealing with these operations, Doctor? *A*.—Well, the instructions were to put as few in the hospital as possible because funds were low.

Mr. Lewin:—I move that be stricken, "because funds were low." His instructions were not to put them in the hospital, and in these instructions—

Mr. Richardson:—"Because funds were low."

Mr. Lewin:—I object to that last.

The Court:—Well, that may stand.

By Mr. Leahy:

Q.—Do you recall, now, Doctor, whether, in pursuance of this opinion you had about Dr. Selders while you were still there, you had made any attempts whatsoever to supplant him?

Mr. Lewin:—Wait a minute.

The Witness:—Yes.

Mr. Lewin:—Wait a minute. I object to that, may it please the Court.

The Court:—I didn't quite get that, Mr. Leahy.

Mr. Leahy:—I asked if he had been attempting to find some one else to take Dr. Selders' place as the surgeon in G. H. A.

Mr. Lewin:—I object to that as irrelevant.

Mr. Leahy:—It is not irrelevant because it is directly—confirms his opinion as to what he did.

Mr. Kelleher:—It is what?

Mr. Lewin:—"Confirms it."

The Court:—It may be a circumstance in favor of his opinion that Dr. Selders was incompetent to do such work, but I wouldn't want to go into any detail about it.

Mr. Leahy:—Oh, no; I am not going to.

By Mr. Leahy:

Q.—Doctor, what efforts did you make, if any, to find another physician to take Dr. Selders' place?

The Court:—I think it is just a question of whether he did or not.

By Mr. Leahy:

Q.—Did you make such an effort? *A*.—I did.

Q.—Do you recall about when you made that effort? *A*.—Sometime in the latter part of January or early in February.

Q.—How did you first come to meet Dr. Selders? *A*.—I contacted Dr. Selders through the Chicago Physicians' Exchange.

Q.—What is that? *A*.—It is a sort of an employment bureau for professional people, technicians, and so forth.

Q.—Doctor, do you recall now with reference to the membership of G. H. A. in the H. O. L. C., whether, after the clinic had been going a while—

Mr. Lewin:—If your Honor please, obviously this is going to be a leading question.

The Court:—I cannot tell yet. You can scent a leading question better than I can, Mr. Lewin. I have to hear the complete question.

Mr. Lewin:—My objection, when counsel is testifying like that, is likely to come too late. After the testimony has been given by counsel, the objection comes too late.

The Court:—Try to avoid leading questions, Mr. Leahy.

Mr. Leahy:—Yes, your Honor.

By Mr. Leahy:

Q.—Doctor, can you tell us what, if any, changes occurred in the membership of Group Health Association while you were the Medical Director? *A*.—I do not quite get your question, Mr. Leahy.

Q.—Numerically speaking, were there any changes in the membership? A.—Oh yes. The membership grew very rapidly.

Q.—When did it begin to grow? A.—After 70 per cent of the H. O. L. C. membership joined Group Health, then it opened up for other Government departments, and then there was a great rush of applications for membership.

Q.—Do you recall what, if anything, happened to the H. O. L. C. men? A.—A great many of them dropped out.

Q.—Do you recall now, Doctor, what Government departments came in? A.—The greater number, I believe, came from the Agricultural Department, who subsequently were so strong that they took over the management.

Mr. Lewin:—Wait just a minute.

By Mr. Leahy:

Q.—Do you recall now, Doctor, whether Mr. Penniman, Mr. Zimmerman and Mr. Kirkpatrick did anything toward getting in new members in G. H. A.? A.—Yes.

Mr. Lewin:—We object to that.

THE COURT:—Objection sustained.

Mr. Leahy:—May we approach the bench, your Honor?

THE COURT:—Yes. You may have some reason for it that I cannot think of.

(Counsel for both sides approached the bench and conferred with the court in a low tone of voice.)

Q.—Doctor, during the course of your administration as the Medical Director of G. H. A. did you or did you not have occasion to interview applicants for membership on the staff? A.—A great many; yes.

Q.—From what sections of the country would they come? A.—The applications and the interviews were with quite a number from different parts of the country, New York, New Jersey, Pennsylvania, the District of Columbia, Virginia, and as far as West Virginia and Kentucky, and then a correspondence resulting from that, from different parts of the country.

Q.—When these applicants came there whom would they seek? A.—They would see me.

Q.—And you would show them through the clinic, I presume? A.—I interviewed a great many before we had a clinic, and a great many after the clinic was opened.

Q.—Did you do that personally, yourself? A.—Yes, sir.

Q.—Whatever terms were reached as to the employment of any physician were reached by you? A.—Yes.

Q.—Doctor, do you recall now the rate of dues charged when you first became Medical Director?

Mr. Lewin:—I object as irrelevant and immaterial.

THE COURT:—I do not think it is material. Objection sustained.

Mr. Leahy:—Perhaps I might follow it with this question, and maybe the relevancy will be seen.

By Mr. Leahy:

Q.—Doctor, under the schedule of dues charged by G. H. A. what, if anything, have you to say of the capacity of G. H. A. to give adequate and complete medical care?

Mr. Lewin:—Objected to as irrelevant and immaterial; and I suggest that it falls under your Honor's previous ruling with regard to similar questions.

Mr. Leahy:—This is directly within his Honor's ruling with reference to what representations were made as to what this clinic could do for its subscribers. It was testified to on the very first day of the trial.

THE COURT:—Is it part of the indictment?

Mr. Leahy:—Yes, your Honor—adequate medical care.

Mr. Lewin:—There is no allegation about the dues or its financial ability, or anything of that sort.

Mr. Leahy:—No; it is for adequate medical care.

THE COURT:—I am inclined to sustain the objection. I think we are going too far into collateral issues. Objection sustained.

Mr. Leahy:—Would your Honor permit us to approach the bench on that point?

THE COURT:—Yes.

(Counsel for both sides approached the bench and conferred with the court in a low tone of voice.)

By Mr. Leahy:

Q.—Doctor, did there come a time when you resigned from G. H. A.? A.—Yes; there did come a time when I resigned.

Q.—When was that, Doctor? A.—That was the latter part of March.

Q.—How long following your illness? A.—I was just convalescing, just recovering from my illness. I went down to H. O. L. C. one day to talk things over, and it was indicated to me that my resignation would be accepted.

Q.—Is that when you resigned? A.—That is when I resigned.

Q.—Who indicated that? A.—Mr. Penniman, who was always the spokesman for the group.

Q.—Was anybody else present on that occasion? A.—Mr. Zimmerman, Mr. Kirkpatrick, Mr. Penniman—I don't know that there were any others.

Q.—Could you tell us why you resigned?

Mr. Lewin:—Objected to.

THE COURT:—Objection sustained.

By Mr. Leahy:

Q.—Doctor, in the chats which you had with the various doctors who came there and whom you interviewed as possible members of the staff, what interference, if any, was there from the District of Columbia Medical Society or any of its members? A.—I never had any interference from the Society.

CROSS EXAMINATION

By Mr. Kelleher:

Q.—Dr. Brown, did you not know that Dr. Tribble had refused to become a consultant for Group Health Association—A.—Dr. who?

Q.—Dr. Tribble—until— A.—He was never asked by me to become a consultant.

Q.—Let me finish my question, please—until G. H. A. could be organized along lines compatible with organized medicine? A.—As far as I am concerned, I never asked him to be a consultant of Group Health or anything else that I am aware of.

Q.—Did you ask him for advice about Group Health Association? A.—I talked with him a great deal about Group Health and with a great many other doctors.

Q.—Did he not tell you that he could not have anything to do with G. H. A. or anything else unless it met the full approval of the District Medical Society? A.—I don't recall such a conversation.

Q.—Did you execute an affidavit for Dr. Tribble in response to a request from him? A.—Yes, sir.

Q.—I show you Exhibit No. 570 and ask you if that is a photostatic copy of the affidavit which you executed? A.—It has my signature on it. It is.

Q.—Is that your affidavit? A.—Yes.

Q.—In that affidavit do you not state that Dr. Tribble had—

Mr. Leahy:—Show him the affidavit.

Mr. Kelleher:—I showed it to him.

Mr. Leahy:—Point to what you are asking about.

By Mr. Kelleher:

Q.—In that affidavit did you not state that Dr. Tribble had refused to have anything to do with G. H. A. until it was approved by the District Medical Society? A.—I don't recall it. It may be there, but I don't recall it. (After reading document referred to.) Apparently that is right.

Q.—Did you not also attempt to obtain the services of Dr. Cromer? A.—Dr. who?

Q.—Dr. J. Keith Cromer. Do you remember Dr. Cromer? A.—No; I do not.

Q.—Don't you remember talking with a gentleman in Washington by the name of Cromer concerning his coming with G. H. A.? A.—There were so many of those men that I do not really recall the names of all of them. I interviewed a great many, and the names of a great many have gone from my mind.

Q.—Let me show you what purports to be a letter from Cromer to you, dated Oct. 26, 1937, and ask you whether that refreshes your recollection as to whether you ever talked with Dr. Cromer. A.—Yes. I remember him now.

Q.—You remember it now. Did you ask Dr. Cromer to come to G. H. A. on the medical staff? A.—Yes.

Q.—Is this (indicating) the reply you received from Dr. Cromer? A.—I don't quite recall. It is not very clear in my mind. It is no doubt a fact.

Mr. Kelleher:—I offer the letter in evidence (handing paper to Mr. Leahy).

By Mr. Kelleher:

Q.—While counsel is examining that document I will go over another matter. Did you also attempt to secure the services of Dr. C. Tiemeyer? A.—Yes.

Q.—In Baltimore? A.—Yes.

Q.—Did you ask him to come on the staff of G. H. A.? A.—Yes.

Q.—Is this a letter which you received in reply from Dr. Tiemeyer (handing paper to the witness)? A.—Yes.

Mr. Kelleher:—I offer it in evidence as U. S. Exhibit 670.

Mr. Leahy:—They are both objected to as pure hearsay.

Mr. Kelleher:—Would your Honor care to hear my reason for offering them?

THE COURT:—I will hear you both on it.
(Counsel for both sides approached the bench and conferred with the court in a low tone of voice.)

U. S. EXHIBIT 669

Mr. Kelleher:—U. S. Exhibit 669 is a letter from J. Keith Cromer, M.D., to Dr. Brown, dated Oct. 16, 1937 and reads as follows:

"Dear Dr. Brown:

"Pursuant to our recent conversation I wish to state that I would be glad to take care of the obstetrical work for your clinic on a part-time basis if and when such consultation work is recognized by the District Medical Society. I hope you understand my position in this matter.

"Very truly yours,
"J. Keith Cromer, M.D."

By Mr. Kelleher:

Q.—Did Dr. Cromer ever come with Group Health Association while you were there? A.—Did he what?

Q.—Did he ever come with Group Health Association as a consultant while you were there? A.—He took care of quite a few obstetrical cases for Group Health; yes.

Q.—Was he retained as a consultant? A.—Yes.

Q.—On a salary? A.—No; by the case.

Q.—On a fee-for-service basis? A.—Yes.

Q.—He never came there on a salary basis? A.—No, sir.

Q.—Dr. Brown, when you were testifying that some of the lay members of Group Health Association circulated among the patients that were attended by the doctors of G. H. A., you did not mean that there was any interference with the treatment of patients by lay members, did you? A.—I don't think that I made a statement that there was, so far as I recall.

Q.—I just wanted to clarify that, that there was no interference with the treatment. A.—No, sir.

Q.—At any time, to your knowledge? A.—Not that I know of.

Q.—Dr. Brown, you determined the amount of the salaries that were to be paid to the doctors, did you not? A.—That was pre-agreed on; yes.

Q.—And you also passed on the qualifications of the doctors who came with G. H. A.? A.—I did.

Q.—And your recommendations were invariably accepted by the board of trustees while you were there? A.—They were, with one exception; and that was Dr. Dabney.

Q.—When was Dr. Dabney employed by G. H. A.? A.—Sometime in February or March, the beginning of March, or along in there sometime; I don't just recall.

Q.—That was while you were sick? A.—Yes.

Q.—With reference to Dr. Selders, did you not believe that he was a qualified man as a doctor? A.—When I employed him I believed that he was qualified to do clinical work and minor surgery, and the other work I intended to give to consultants outside.

Q.—Did you not believe he was a finely qualified doctor? A.—No; I did not; not for general surgery.

Q.—Did you believe he was finely qualified for whatever work he was equipped to do? A.—For clinical work, minor surgery.

Q.—A finely qualified doctor? A.—A very well qualified doctor in minor surgery for clinical work in the clinic.

Q.—Would you say an appendectomy is a minor operation? A.—It is a major operation, but there are very difficult appendectomies and there are very simple appendectomies.

Q.—But, in general, an appendectomy is a major operation? A.—The average is; yes.

Q.—Did you not know as of December 1937, when you testified in the Lee and Scandiffio hearing, that Dr. Selders was performing appendectomies at Garfield Hospital? A.—He did perform an appendectomy at Garfield Hospital, and I was with him.

Q.—And at that meeting of the Executive Committee did you not tell the committee that you considered Dr. Selders a finely qualified doctor? A.—Yes; but it was not qualified.

Q.—Your answer was not qualified? A.—That statement at that meeting was not qualified. He was very well qualified for the work that I had in mind for him.

Q.—And at that time you also told the Executive Committee that he was doing appendectomies at Garfield Hospital? A.—I did. They were very simple cases.

RE-DIRECT EXAMINATION

By Mr. Leahy:

Q.—Doctor, what did you mean when you stated that you were with him when he operated? A.—I went as a witness; I went with him to the operation and was present at the operation.

Q.—You are thoroughly familiar with appendectomies, are you? A.—Absolutely. I did many of them myself in my time.

Q.—So you stood right by him? A.—I stood as an observer, close to him; yes.

Q.—Who was it that fixed the salaries of the doctors on the staff? A.—That was a matter of discussion and agreement.

Q.—With reference to any limitation in amount which you were authorized to pay, was there or was there not such a limitation? A.—Well, there was a limitation as to the qualifications of the man. The limits were put on at \$4,800 per year to begin with. Anything outside of that naturally would have to be taken up with the Executive Committee or the board of trustees.

Q.—Who would determine whether you could give a man more money or not? A.—That was a matter for the board to determine.

Mr. Leahy:—May we approach the bench for just a moment on the matter of the evidence which we were going to try to find for your Honor?

THE COURT:—Yes.

(Counsel for both sides approached the bench and conferred with the court in a low tone of voice.)

RE-CROSS EXAMINATION

By Mr. Kelleher:

Q.—How old are you, Dr. Brown? A.—I am over 70.

Mr. Kelleher:—That is all.

TESTIMONY OF MRS. BETTY LOGSDON

DIRECT EXAMINATION

By Mr. Leahy:

Q.—By whom are you employed? A.—Dr. Warfield.

Q.—How long have you worked for him? A.—Since 1936.

Q.—In what capacity? A.—Secretary.

Q.—Do you recall, to be specific, a question which was asked you when you were here as a witness for the Government, with reference to sending out some questionnaires? A.—Yes.

Q.—Do you recall the question as to whether you had sent those questionnaires to hospitals? A.—Yes.

Q.—Do you recall now how you answered?

The Witness:—I think I said that my best recollection was that I had mailed them out.

Q.—Have you refreshed your recollection since? A.—Yes. After going back to the office I realized that I had made an incorrect statement.

Q.—Do you wish to correct it? A.—Yes; I would like to.

Q.—Did those questionnaires go to hospitals? A.—No.

Q.—To whom did they go? A.—They were mailed to members of the Hospital Committee.

Q.—Hospital Committee of what organization? A.—Just the Hospital Committee; that is all I know.

Q.—And you did not mail any of them to the hospitals? A.—No; I did not.

CROSS EXAMINATION

By Mr. Lewin:

Q.—Did you mail each one of those questionnaires to the doctors whose names appear on that list (indicating), which is U. S. Exhibit 312? A.—Well, I don't know exactly who the members of the Hospital Committee were. I recall that copies were sent members of the Hospital Committee, but I could not definitely say who they were at that time.

Q.—You cannot remember to whom you sent them? A.—No; I cannot.

Q.—What refreshed your recollection that you sent them to the Hospital Committee? A.—Going back to the office and thinking it over, I remembered very distinctly that they were not sent to the hospitals.

MARCH 31—MORNING

(At a meeting in the Court's chambers, attorneys for the defense offered a number of documents. These included records produced by Mr. J. Francis Moore and Mr. Logan S. Cain on March 11, 1941, for the purpose of showing money advanced by the funds; also one that has to do with the issue of solicitation and coercion of employees of the Federal Home Loan Bank Board to join Group Health Association. The Court said it may be identified and considered as offered and refused, over the objection of Government counsel.)

There were also a number of documents covering the \$40,000 from the Home Owners Loan Corporation; also a letter written in the fall of 1937 by Mr. Russell, General Counsel, pertaining

to the legality of the setup; also one written in the spring of 1938 on the same issue of legality. Next were offered the annual reports of the Twentieth Century Fund, Inc. also refused.

Next was a report on examination of accounts of the Twentieth Century Fund, Inc., from March 1, 1936 to Feb. 28, 1937; and the same with reference to the records of the Joint Committee of the Twentieth Century Fund and the Good Will Fund.

The Court also ruled out any proffer of testimony with reference to the district attorney's office and the corporation counsel's office on the question of legality; and also the comptroller's office.

Mr. Leahy also offered some pleas which have been filed by G. H. A. in two suits in our court against G. H. A. Those pleas set up what G. H. A. alleges to be the trade in which they are engaged. They describe just what they undertook to do and just what they are doing, alleging that they are employing doctors to look out for patients; that those doctors were negligent in taking care of patients. In reply to those allegations G. H. A. has set up what it considers to be its trade or its business and what it is engaged in; and we offer those pleas as an admission of G. H. A. as to the character and type of the trade it is conducting, the Court sustained the objection.

(Subsequently Mr. Magee gave to the reporter the court files in the case of *Kennedy v. Group Health Association, Inc., et al.*, Civil Action No. 6436, and *Kramer v. Group Health Association, et al.*, Civil Action No. 2474.

Mr. Leahy also offered two letters written by Selders, stating that he was dealing with a group which was being managed and administered by a lay board and that he was suffering interference from the lay board in the matter of his selection of doctors.

(The jury reentered the court room and resumed their seats in the box.)

TESTIMONY OF DR. HENRY ROLFE BROWN

DIRECT EXAMINATION (RESUMED)

By Mr. Leahy:

Q.—Doctor, there was one question which I wished to ask you. In your judgment as the Medical Director of G. H. A., was G. H. A. giving adequate medical care to its subscribers? A.—A great many members of Group Health resigned because they did not believe they were getting sufficient medical care; and I do not believe that any doctor can give adequate medical care to forty, fifty or sixty patients daily.

CROSS EXAMINATION

By Mr. Lewin:

Q.—Doctor, I show you an exhibit marked No. 671 and ask you if that is your signature that appears on the bottom thereof? A.—Yes; it is.

TESTIMONY OF DR. DANIEL L. BORDEN

DIRECT EXAMINATION

By Mr. Leahy:

Q.—Doctor, over the week end did you look for the application of Dr. Selders on which the Academy of Surgery acted? A.—Yes; I did.

Q.—Also the letter of transmittal requesting you to report? A.—Yes.

DEFENDANTS' EXHIBIT 55

Mr. Leahy:—Defendants' Exhibit 55 is on the letterhead of the Columbia Hospital for Women, Washington, D. C., dated Nov. 26, 1937 and reads as follows:

"Washington Academy of Surgery,
Care of Dr. H. H. Kerr,
1744 N Street N.W.
"Gentlemen:

"I am directed by the Medical Board of this hospital to request your cooperation and advice, as proffered some time ago, in the matter of an application for courtesy privileges in major gynecological surgery and operative obstetrics.

"Dr. Raymond E. Selders, an employee of the medical cooperative or insurance organization recently formed by employees of the Home Owners Loan Corporation, is applying for such privileges and, as you can see by the enclosed copy of his application, he has not presented evidence of the high degree of training and large experience in gynecology and obstetrics which this hospital has usually demanded of those seeking privileges in Classes 1 and 2, although he may have had both.

"Because of the peculiar circumstances of this case and the Medical Board's desire to act in a fair and judicial manner, your advice will be greatly appreciated.

"Very truly yours,

"P. M. Ashburn, M.D.,

"Secretary of the Medical Board."

DEFENDANTS' EXHIBIT 56

Defendants' Exhibit 56 is the application of Dr. Raymond E. Selders:

"Give name of Medical Board or Courtesy Staff physician for reference. "Walter E. Lee, M.D., Surgeon, Philadelphia. John D. Moore, Past President, Medical Association of Texas."

By Mr. Leahy:

Q.—Just tell where you got the Hugo address. A.—I got it from him, on that letter. That is, he gave me that copy.

Q.—I am now showing you what has hitherto been introduced in evidence and read by you on Friday, Defendants' Exhibit 54, dated Jan. 12, 1938, Hugo, Okla. Is that where you got it? A.—Yes, sir.

CROSS EXAMINATION

(There was a long cross-examination concerning the confusion between Drs. Moore of Texas and of Hugo, Okla.)

REBUTTAL

TESTIMONY OF MRS. CHARLES HARDIN

DIRECT EXAMINATION

By Mr. Kelleher:

Q.—On June 19, 1938 your husband became sick with appendicitis? A.—Yes.

Q.—And Dr. Solette was called by you? A.—Yes.

Q.—And then Mr. Hardin was taken to the hospital and operated on? A.—Yes.

THE COURT:—I think the jury will recall all that.

By Mr. Kelleher:

Q.—When Dr. Solette came to the house after you called him, did you have any conversation with him concerning Group Health Association? A.—Yes, I did.

Q.—What was that conversation? A.—He said Group Health doctors were not permitted to operate in the hospitals. He said that and, therefore, he suggested calling another surgeon to prevent any further waste of time.

Q.—What did you say about Group Health? A.—I said we were members of Group Health and he wanted to know about who should operate, and I said we were members of Group Health; and he said it would be a waste of time to call in a Group Health doctor at that time; that Group Health doctors were not allowed to operate in the hospitals.

Q.—Did Dr. Solette suggest Dr. Bachrach? A.—Yes.

Q.—And did Dr. Bachrach come and examine your husband? A.—Yes.

Q.—Was there any conversation concerning Group Health in Dr. Bachrach's presence? A.—When Dr. Solette said "These people are members of Group Health, but I have already told them Group Health doctors are not permitted to operate," Dr. Bachrach said "that is right."

Q.—Did you conduct the negotiations with Dr. Solette about Dr. Bachrach coming in and seeing the patient? A.—Yes.

Q.—Did your husband participate in them at all? A.—No, other than that he said whatever I said was all right.

Q.—And whatever occurred that evening there with Dr. Solette and Dr. Bachrach, that was done in your presence? A.—Yes.

CROSS EXAMINATION

By Mr. Leahy:

Q.—Do you recollect whether Dr. Solette mentioned some other names at that time? A.—He did.

Q.—Who were they? A.—There were several doctors; the only one I recall at this time is Dr. Cafritz; others were mentioned, two others; I don't recall at this time who they were.

TESTIMONY OF DR. MARIO SCANDIFFIO

DIRECT EXAMINATION

By Mr. Kelleher:

Mario Scandiffo, Medical Director of Group Health Association, said he obtained his medical degree from George Washington University in 1928. He spent three years of internship and residency at the New York Postgraduate School and Hospital; since then he has been in private practice in pediatrics. He came originally from Rhode Island.

Q.—Doctor, when did you become associated with Group Health Association? A.—On Nov. 1, 1937.

Q.—What were your duties when you came to Group Health Association? A.—My duties at the time were as pediatrician to Group Health.

Q.—Who was Medical Director of Group Health Association when you first came there? A.—Dr. Henry Brown.

Q.—Doctor, was it customary during 1938 for Group Health Association Clinic to keep records of the number of patients seen by doctors on the staff of Group Health? A.—Yes, it was.

Q.—Will you describe the nature of the records which were so kept? A.—Each doctor listed his patients "seen" in a book, which was in his own keeping. From this book daily and monthly summaries were made by the staff; the clerical staff.

Q.—Are those records you speak of under your control now as Medical Director? A.—They are.

Q.—Have you produced here in court the daily and monthly summaries showing the treatments by Dr. Richard Price? A.—Yes, I have those.

Q.—Do you have all of the daily summaries concerning Dr. Price's treatments? A.—Not all; the month of September 1938 is missing.

Q.—But the daily and monthly records are missing? A.—Both daily and monthly; all records for that month are completely missing.

Q.—Now, do you have the daily record showing the treatments by Dr. Price for the rest of the year of 1938? A.—Yes, I have.

Q.—All of them, Dr. Scandiffo? A.—All of them with—I should say—with the exception of about 13 days throughout the year.

Q.—For the days for which you have no record, can you tell us where those records are? A.—No, I could not.

Q.—Have you made a search for them? A.—Yes, we have searched thoroughly for them and they are completely missing.

Q.—Now, Dr. Scandiffo, you have studied those records, have you not? A.—I have.

Q.—Pursuant to my request? A.—Yes.

Q.—And I speak specifically of the records of Dr. Price? A.—Yes.

Q.—Will you tell us what was the largest number of patients seen by Dr. Price as shown by these records on any day during the period you have there, 1938? A.—That ordinarily would be a difficult question to answer if you word the question of patients "seen"; patients listed in the record, the maximum number was 51.

Q.—That is, according to those records you have? A.—That is correct.

Q.—Will you tell us what the next highest number was according to those records? A.—The next highest number grades down to 34; there are exactly seventeen days out of the entire year of 1938 when Dr. Price saw more than 34 patients a day; that is, had thirty-four names of patients listed on his daily record.

Q.—And outside of eighteen days then during that period Dr. Price saw them less than 34 patients daily? A.—Yes.

Q.—Have you computed from the records you have concerning Dr. Price's treatments the average number of patients seen by Dr. Price each day? A.—Throughout the year?

Q.—For each month throughout the year? A.—I don't have the average monthly figure; I could give that to you in a very short time by going over my summaries.

Q.—Perhaps I didn't make my question clear: from the monthly summaries will you tell us what the average number is? A.—Yes, the average number of patients listed in Dr. Price's record for the entire year of 1938 was 18.

Q.—Eighteen? A.—Correct.

Q.—I believe you told us, Doctor, that each doctor during 1938 kept his own record of patients seen in a little book. A.—Yes.

Q.—Now, will you tell us what was included within the phrase, or the two words, "patients seen"? A.—The list of patients seen usually included, and did include, with the exception of Dr. Price, those patients seen in the office, home or hospital each day.

Q.—You say with the exception of Dr. Price: what do you mean? A.—I mean by that Dr. Price listed in his records telephonic consultations, the names of patients who accosted him in the hall for a moment or two—

Mr. Leahy:—Object: How would this patient know that?

The Witness:—I know it because I saw him enter in his list the names of those patients who received the services concerning which I am about to recite; also the injections which he gave the patients; also interpretations of x-ray plates; and also every fluoroscopic examination made by Dr. Price and, finally, all x-ray skin treatments usually performed under Dr. Price's supervision by Mrs. Davis, the x-ray technician.

Q.—Now, let us consider these matters which you say you know he entered. First, x-ray interpretation. How long would it take any doctor to interpret an x-ray?

Mr. Leahy:—Objected to, unless he is qualified to read x-rays.

By Mr. Kelleher:

Q.—Do you know, as a fact, how long Dr. Price took for x-ray interpretations? A.—Yes, Dr. Price took an average of one to two minutes for the ordinary chest and skeleton interpretation; an average of about five minutes for a gastrointestinal series and gallbladder series.

Q.—Doctor, are you familiar with and can you read x-rays, make x-ray interpretations? A.—I can't qualify as such.

Q.—Have you any experience in the interpretations of x-rays?

A.—Some: every physician has some experience in that work.

Q.—Would you say that from one to two minutes on a chest picture, and from five minutes, about five minutes on an abdominal picture was a sufficient time for a doctor to spend?

Mr. Leahy:—Objected to; he has just said he was not an expert.

THE COURT:—Sustained.

By Mr. Kelleher:

Q.—Doctor, how long did Dr. Price spend on skin treatments? A.—Not more than two minutes per patient.

Q.—What were those skin treatments; what did they consist of? A.—Simply administering x-ray dosages to particular areas of the skin affected by the disease. The work, the preparation was done by Mrs. Davis, the x-ray technician.

Q.—What were the duties of Dr. Price with reference to those treatments? A.—The actual time consumed by Dr. Price in administering the treatment would occupy just a fraction of a second.

Q.—Now, Dr. Scandiffo, will you tell us how long was spent in a fluoroscopic examination? A.—The average time spent on fluoroscopic examination wasn't more than five minutes; that includes the preparation of the patient. The actual examination was probably less than one minute.

Q.—And there again was the patient prepared by the nurse? A.—Mrs. Davis, yes.

Q.—And the doctor's duty was solely to make the examination? A.—That is correct.

Q.—Dr. Scandiffo, have you also produced the daily and monthly summaries of the doctors of G. H. A. during the period from Jan. 1, 1938 to March 1, 1938, when Dr. Brown was Medical Director?

THE COURT:—Just that period of time?

Mr. Kelleher:—Yes.

The Witness:—Yes, I have.

By Mr. Kelleher:

Q.—You have. What were the names of the doctors who were on the staff of G. H. A. during that period? A.—Dr. Selders; Dr. Brown; Dr. Hulburt; Dr. Price and myself. I should judge that there were one or two other part-time physicians.

Q.—Dr. Richardson? A.—Yes, I believe he was the only one at that time.

Q.—Taking the records of Dr. Selders, Dr. Hulburt and Dr. Price, and yourself: will you tell us what the monthly averages were for Dr. Selders? A.—I can give you monthly totals for Dr. Selders, but not the monthly averages unless I stopped to compute them.

Q.—Give us the monthly totals first for Dr. Selders. A.—Dr. Selders was 533.

Q.—That was the month of January? A.—Yes.

Q.—In February? A.—He saw 481.

Q.—What is the daily average? A.—Daily average for the two months was 20 a day.

Q.—Take Dr. Hulburt. A.—He in January 1938 saw 644 patients and in February 428. His average for the day was 22.

Q.—Now, Dr. Price. A.—Dr. Price, in January 1938 saw 333 patients, and in February 375. His average 15 a day.

Q.—Was there any time, Doctor, during those two months when any doctor in the clinic treated as many as 60 patients a day? A.—No.

Q.—Dr. Scandiffo, were these daily and monthly summaries of patients seen by the various doctors in the clinic kept for November and December 1937? A.—They were kept, but we have only the total summary of patients seen by doctors from Nov. 1, 1937 to June 1, 1938. We do not have the daily or monthly summaries for the individual months November and December 1937.

Q.—Yes. You have told us, Dr. Scandiffo, that you were engaged in private practice from 1929, I believe you said, until 1937. Is that correct? A.—That is correct: 1931, I am sorry.

Q.—1931 to 1937? A.—Yes.

Q.—Will you tell us whether there is any difference in the personal relationship between the doctor and patient in private practice and in a group such as G. H. A.?

Mr. Leahy:—I object.

THE COURT:—I don't know what he has relation to.

Mr. Kelleher:—I have relation to Dr. Brown's testimony.

Mr. Leahy:—What did he say?

Mr. Kelleher:—He testified that it was impossible for doctors to maintain the proper relationship with their patients when they had to deal with so many.

Mr. Leahy:—That had nothing to do with the question you put.

THE COURT:—I don't see that a comparison would be the proper way to approach it. If you can show the actual circumstances with reference to G. H. A. and generally with reference to private practice I will permit that.

By Mr. Kelleher:

Q.—Will you tell us from your experience with G. H. A. whether you were able to maintain the proper relationship between you and your patients?

Mr. Leahy:—I object to the question: that is not what his Honor suggested. It is not rebuttal.

Mr. Lewin:—I submit it is.

THE COURT:—I think Dr. Brown brought out the fact that the method pursued by G. H. A. presented difficulties in the way of a patient continuing with one doctor after having seen another. I think there is something to that effect, is that correct? I will permit you to offer evidence on that, if you wish.

Mr. Kelleher:—I will go to something else and probably come back to this.

By Mr. Kelleher:

Q.—Dr. Scandiffo, while you were with G. H. A. during the period from November 1937 until Dec. 20, 1938 in your view, did Group Health Association supply its members adequate medical care? A.—Most certainly; it was much more medical care—

Mr. Leahy:—Objected to. The question has been answered.

THE COURT:—He has answered the question.

By Mr. Kelleher:

Q.—What is the reason for your answer? A.—The reasons are that we could give the patient better and more adequate medical care than we could as private practitioners.

CROSS EXAMINATION

By Mr. Leahy:

(The witness listed the various physicians employed in 1937 and 1938.)

By Mr. Leahy:

Q.—In that period to which your attention was called, Nov. 1, 1937 to May 1, 1938, it treated 19,130 patients? A.—Who treated?

Q.—G. H. A. A.—I wish you would make your question more definite.

Q.—Doesn't it show that the number of patients in the clinic was 19,130 in that period of time? A.—I wish to qualify it now, if I may—

THE COURT:—Just answer the question.

The Witness:—Yes. The answer is yes.

Q.—Now, what is your explanation? A.—The 19,000 and some odd included medical care, surgical, eye, nose and throat, pediatrics, obstetrics, and also laboratory tests; physiotherapy treatments, basal metabolism, electric treatments, cardiographs, x-rays and fluoroscopic examinations.

Q.—Well, it shows that; it is broken down here, isn't that true? A.—Yes.

Q.—You treated 6,218 medical cases? A.—Yes.

Q.—Two thousand four hundred and forty-three surgical cases, is that right? A.—Yes.

Q.—Two thousand seven hundred and seventy eye, nose and throat? A.—Yes.

Q.—Two thousand one hundred and seventy-nine pediatrics? A.—Yes.

Q.—And 94 obstetrics? A.—Yes.

Q.—And in that time you had medical, surgical and obstetric cases in the hospital in number 58? A.—Yes.

Q.—You made one thousand three hundred and eight home calls? A.—Yes.

Q.—And two hundred and fifteen hospital calls; is that right? A.—Yes.

Q.—And you referred 248 cases to consultants? A.—Yes.

Q.—Physiotherapy you had 3,464? A.—Yes.

Q.—Ultraviolet treatments, 1,735? A.—Yes.

Q.—Short wave treatments? A.—One thousand seven hundred and twenty-nine.

Q.—Basal metabolism, 330? A.—Yes.

Q.—Electrocardiographs? A.—Sixty-six.

Q.—X-ray? A.—Eight hundred and twenty-two.

Q.—Fluoroscopic examinations? A.—Four hundred and seventy-three.

Q.—Prescriptions? A.—Five thousand eight hundred and sixty-four.

Q.—Laboratory; clinical laboratory reports? A.—Five thousand five hundred and twenty-eight.

Q.—Eye refractions by Dr. Haller? A.—Four hundred and twenty-two.

Q.—Eye, ear, nose and throat in clinic? A.—Sixteen.

Q.—You treated 9,278 members and 9,013 dependents, is that correct? A.—Yes.

Q.—Now, you averaged for us the amount of time which was spent on the various examinations. I made some notes; I want to be sure that I have your testimony correctly. On a general chest interpretation of an x-ray plate you spent one to two minutes, is that right? A.—That is correct. May I qualify that answer?

Q.—Yes. A.—I should like to state that many of our chest x-rays were simply routine procedures, not for the detection of any pathology. If a chest plate showed any pathology, the average time spent in interpreting that plate would be considerably more.

Q.—Well, how much more, do you know? A.—Yes, I should say the average interpretation of a pathologic x-ray plate should take at least five minutes.

Q.—Can you detect a pathologic condition in a chest in one or two minutes? A.—You can detect the fact that there is pathology within a minute.

Q.—And can you then interpret an x-ray plate of pathologic condition in the chest in one or two minutes? A.—In some you may; in others you should take longer.

Q.—You have taken these times which were required to make interpretations of x-rays of chests; x-rays of gastrointestinal tracts, from the records, haven't you? A.—No, sir.

Q.—You didn't stand by and see each x-ray taken, did you? A.—I saw many.

Q.—Did you see Dr. Price and notice how long he spent on each x-ray? A.—No, not every one; I watched him make the examination and watched him interpret the plate.

Q.—But, you have given the time which Dr. Price spent on these interpretations from an inspection of the records, which you have; isn't that true? A.—Oh, no.

Q.—Will you state it as a fact that Dr. Price spent only one to two minutes on chests? A.—On the average routine chest x-rays, yes.

Q.—How many were average routine chest x-rays? A.—It would simply be a guess; I should say about 90 per cent.

Q.—What would be the routine of taking x-ray chest pictures? A.—The routine would simply be to make out the requisition for an x-ray of the chest, and then the appointment for the patient would be made for the x-ray.

Q.—You didn't x-ray the chest of each patient? A.—No.

Q.—You only x-rayed the chests of those you thought should have x-rays. A.—That is what I tried to bring out. Many were routine x-rays; simply on the basis of requests of patients, or as a preventive measure.

Q.—If a patient requested an x-ray you gave him one? A.—In most cases, yes.

Q.—If you thought he should have an x-ray of his chest you did that? A.—Yes.

Q.—There wasn't any routine in giving x-ray examinations of all patients? A.—No.

Q.—And that is true of gastrointestinal tracts also? A.—Yes.

Q.—You wouldn't take an x-ray of an abdomen unless there was some reason for it, in your judgment? A.—No.

Q.—Or unless the patient thought there was some reason for it? A.—Correct.

Q.—And you say he would spend how long on his interpretation of a gastrointestinal tract x-ray? A.—I would say on an average of about five minutes where no pathology was evident.

Q.—Is there anything in the record to indicate as to what time he spent? A.—No, there is not.

Q.—Then your testimony is that in cases where you saw Dr. Price interpreting such x-rays he would take a minute or two minutes in ordinary cases; and in the case of a gastrointestinal x-ray he would take four to five minutes, you say that is correct? A.—That is correct.

Q.—How many cases do you think you saw Dr. Price interpret a day? A.—I should say roughly—I will have to put that on a weekly basis—I would say about ten a week.

Q.—Ten a week? A.—Yes.

Q.—And why do you base it on a week instead of a day? A.—Because I couldn't give an average daily; a daily average, I mean, because I wasn't with Dr. Price every day; didn't have time.

Q.—Then your testimony to be accurate is that each week you saw Dr. Price give at least ten x-ray interpretations? A.—Yes.

Q.—Now, who did the fluoroscopic examinations? A.—Dr. Price.

Q.—How long did you say he spent on a fluoroscopic examination? A.—The actual time spent on a fluoroscopic examination was just a matter of seconds; a minute or two at most. You cannot expose the patient too long.

Q.—You are referring now to an examination on a fluoroscopic table? A.—Usually upright.

Q.—And any examination which you saw Dr. Price make would take only a minute? A.—Roughly about that.

Q.—What were those examinations being made for when you saw them? A.—Many of them for checking of physical findings; many of them to determine whether there was any pathology in the chest; that is in the heart or lungs.

Q.—How many of those would you say Dr. Price made in a week? A.—I didn't attend many of those; I couldn't give you a weekly average of those.

Q.—Did Dr. Price also attend patients outside the clinic; house calls? A.—You mean Group Health patients?

Q.—Yes. A.—Yes.

Q.—How many house calls would he make a day? A.—I don't think you could break it down to daily average. If broken down it would be very small; I should say roughly about one or two a day.

Q.—Who else made the calls on patients who were sick at home? A.—All of our doctors; all of those listed in that summary.

Q.—Have you any breakdown there of the monthly home calls made? A.—I have not. I have the total, as you know, of the period Feb. 1, 1937 to August 31, 1937—one thousand three hundred and eight home calls.

Mr. Lewin:—That is the seven month period?

The Witness:—Yes.

By Mr. Leahy:

Q.—How many doctors were making that number of calls in that period? A.—Seven.

Q.—That included the District of Columbia, adjacent territory in Virginia, and also Maryland? A.—That is correct.

Q.—And the clinic, the hours of the clinic, were from? A.—From 9 to 6; 9 to 1 on Saturdays.

Q.—When was it Dr. Price resigned, do you recall?

Mr. Lewin:—Objected to as being beyond the indictment period.

By Mr. Leahy:

Q.—Do you recall? A.—Yes.

Mr. Lewin:—May the question be asked: Was he still there at the time of the indictment?

THE COURT:—He may answer that question.

The Witness:—Dr. Price was still with us at the time of the indictment. Is that the information you want?

By Mr. Leahy:

Q.—When did he resign? A.—In January 1939, to the best of my recollection.

Q.—Do you have the records made by Dr. Price with you? A.—What records are you referring to?

Q.—You said he marked down in a little book everybody he saw; talked to? A.—No, I don't have those records.

Q.—Where are they? A.—I don't know; I believe he took them with him.

Q.—Now, how do you know Dr. Price's book contains the records you state it contains? A.—Because these are copies from the doctor's book.

Q.—Did you ever test the copy that you have with Dr. Price's book? A.—I personally did not because I wasn't responsible for these records at that time.

Q.—Do you know of anybody who has transferred from Dr. Price's record book the number of patients he saw there in the clinic? A.—Yes, I do.

Q.—Where are those records? A.—Those are the ones that I have.

Q.—Did you ever see anybody transfer them from Dr. Price's book? A.—I have from time to time seen the process done, yes.

Q.—Did you ever examine Dr. Price's book yourself? A.—No.

Q.—Never did? A.—No, I had no occasion to.

Q.—Do you know now whether he saw only the number of patients which he had on the records you testified from? A.—I wish you would repeat that question.

Q.—I said, do you know now that the only patients who Dr. Price saw were those shown on the records to which you testified? A.—No, I don't know that. I mean by that this: I do know that the patients, the names listed and the numbers listed are the exact copies of his own records. I do know it, that the names listed do not agree with the number of patients seen by him.

Q.—You mean that he saw more patients than are listed on the records? A.—He saw less patients than are listed on his records.

Q.—You mean that the records he made show as patients seen people in fact he did not see? A.—That is correct. I testified that he included telephonic conversations, casual meetings in the hall with patients, injections—not injections—x-ray interpretations were listed as patients seen when they were not seen.

Q.—Is there any record now to which you can draw our attention which is an original record made by Dr. Price? A.—Yes, not in our possession, however; it must be in his possession.

Q.—Did you answer also that all throughout this period which you have inquired about that you believed G. H. A. was supplying adequate medical care to patients? A.—I did.

Q.—And that you felt throughout this period that you could give better care to patients than you could in private practice? A.—Undoubtedly.

Q.—Do you recall talking with Dr. Wall and Dr. Macatee in the early fall of 1938? A.—I do.

Q.—You knew Dr. Wall very well, did you not? A.—I think I did.

Q.—You served with him for a good while before you joined G. H. A.? A.—Yes.

Q.—He was your preceptor, so to speak, was he not? A.—In a manner of speaking, yes.

Q.—Did you and Dr. Price and Dr. Selders go to Dr. Wall and Dr. Macatee and offer to resign in a body from G. H. A. at this very time that you are talking about, because you couldn't give adequate medical care to patients? A.—No.

Q.—Did you and Dr. Price and Dr. Selders go to Dr. Wall's home and there talk with Dr. Wall? A.—We did.

Q.—Did you all three offer to resign from the staff of G. H. A.? A.—We did not offer to resign.

Q.—Did you say that the three of you wanted to resign? A.—I will say that we discussed the resignation of us from G. H. A.

Q.—At the same time you thought all the others on the staff of G. H. A. would resign also? A.—No.

Q.—And then did you ask Dr. Wall and Dr. Macatee to help you? A.—No.

Q.—Did any one say anything about what would happen if you all resigned at once? A.—I did not.

Q.—And did you then say to Dr. Wall and Dr. Macatee that would break up G. H. A. if you all resigned in a body? A.—I said it might break up G. H. A. if we all resigned.

Q.—And didn't Dr. Wall and Dr. Macatee say, "No," they couldn't do anything for you? A.—I don't recall that, because there was no occasion for it; no questions were asked to get an answer like that.

RE-DIRECT EXAMINATION

By Mr. Kelleher:

Q.—Tell us the complete conversation at that meeting. A.—This occurred in the fall of 1938, at a time when Dr. Selders brought to the attention of the staff certain—

Mr. Leahy:—I object to anything like that; just tell the conversation.

The Witness:—The conversation of what?

By Mr. Kelleher:

Q.—With Dr. Macatee and Dr. Wall. A.—Dr. Wall and Dr. Macatee were seen by Dr. Selders, Dr. Price, and myself at Dr. Selders' request to me—Dr. Selders being thoroughly dissatisfied with his position asked me to arrange—

By the Court:

Q.—What was said? A.—I thought that would include it.

THE COURT:—I want you to confine yourself to the question and answer it.

The Witness:—We discussed exactly what Mr. Leahy has brought out in my testimony. We asked Dr. Wall to meet

with the three of us and at the time of the meeting Dr. Selders and Dr. Price asked certain questions of Dr. Wall and Dr. Macatee particularly regarding the Medical Society privileges and hospital privileges. The question of resignations was brought up; that is the question of our resigning from Group Health staff was brought up at the time and discussed.

Q.—By whom? A.—By all of us.

Q.—And in connection with the hospital privileges and membership in this Medical Society? A.—No, not in that connection. We simply—the question of hospital privileges and of medical society privileges was brought up by Dr. Selders and Dr. Price, Dr. Selders particularly because he was a surgeon and—

Mr. Leahy:—I object.

THE COURT:—Yes. Sustained.

TESTIMONY OF MRS. CAROLINE REECE EPPERLEY

The witness identified some documents.

TESTIMONY OF E. M. ROGERS

As superintendent of Casualty Hospital, she identified some documents.

TESTIMONY OF EDNA TREASURE

As the superintendent of the National Homeopathic Hospital she identified documents.

TESTIMONY OF RAYMOND R. ZIMMERMAN

DIRECT EXAMINATION

By Mr. Lewin:

Q.—Do you recall a meeting at a dinner on the evening of June 24, 1937, between you, Mr. Penniman, and Dr. Henry Rolfe Brown? A.—I think so; that was at a dinner meeting at the Mayflower Hotel, prior to going over to the District Medical Society.

Q.—Now, Dr. Brown testified here, page—

Mr. Leahy:—Just ask a question. You don't have to characterize Dr. Brown's testimony.

Mr. Lewin:—I am going to ask him about the testimony.

THE COURT:—Put the question.

By Mr. Lewin:

Q.—Did you at that meeting tell Dr. Brown in connection with the anticipated meeting at the District Medical Building to tell them—meaning the doctors of the District Medical Society, or its executive committee—as little as possible? A.—Nothing of the sort. That was not the spirit of the meeting.

Q.—Did you hear Mr. Penniman make that statement? A.—Do I understand the question to be: you are asking me if I instructed Dr. Brown to say as little as possible to the doctors over there?

Q.—Yes, I asked that question. A.—There was no such instruction given at all.

Q.—Did you say to Mr. Penniman to say as little as possible? A.—No.

Q.—Any words to that effect? A.—On the contrary we said—

Mr. Leahy:—I object.

THE COURT:—Sustained.

By Mr. Lewin:

Q.—What did you say?

Mr. Leahy:—I object.

Mr. Lewin:—Dr. Brown went into this.

THE COURT:—He didn't go into everything that was said. Dr. Brown said that Mr. Zimmerman made some specific statement, as I understood it. Mr. Zimmerman has denied it; that ends it.

By Mr. Lewin:

Q.—Did you three gentlemen go to the District Medical Building following that dinner meeting? A.—Yes.

Q.—And in the lobby did you say to Dr. Brown, Penniman, or either of them: "Now, don't forget; we will give them just as little as possible," or words to that effect, meaning by them the doctors of the Executive Committee of the District Medical Society. A.—I made no such statement at all. We looked on this as an opportunity—

THE COURT:—Just a minute: please answer the question.

By Mr. Lewin:

Q.—Now, you attended that meeting at the District Medical Society Executive Committee on June 24? A.—Yes.

Q.—Was any advice of the character I have called your attention to followed up at that meeting by your conduct: in other words, at that meeting did you tell them as little as pos-

sible: did you tell them as little as possible? A.—We gave them a full statement of the purposes of Group Health.

THE COURT:—Just a moment. I have to take some control of this situation. There is no foundation for that. If it was objected to, I would have sustained the objection.

Mr. Lewin:—May I approach the bench?

THE COURT:—Yes.

(Thereon Mr. Lewin approached the bench and handed the Court a transcript of the testimony, indicating certain portions thereof.)

THE COURT:—Yes, I am sorry; I was mistaken. Dr. Brown was asked about that. What you want to ask is whether any such arrangement was followed at that meeting?

By Mr. Lewin:

Q.—Yes. A.—We gave them full and complete information. At the conclusion of the meeting they thanked us for—

THE COURT:—You answered the definite question; that was sufficient.

The Witness:—We gave them full information; nothing withheld.

By Mr. Lewin:

Q.—Do you ever recall discussing the qualifications of Dr. Raymond E. Selders as a surgeon with Dr. Henry Rolfe Brown in the fall of 1937?

Mr. Leahy:—Objected to. Immaterial; no foundation laid.

THE COURT:—I don't recall that: sustained.

By Mr. Lewin:

Q.—Did you give any instructions to Dr. Henry Rolfe Brown that he was to leave the approach to the hospitals for Group Health alone? A.—That is for him not to deal with the hospitals?

Q.—Yes. A.—Never at any time.

Q.—Did you ever hear any one in connection with the management of Group Health Association give such instructions to Dr. Brown? A.—Never did.

Q.—Did you ever give such instructions to Dr. Brown that he should send you or send the president of Group Health mail received from the hospitals addressed to him unopened? A.—Never heard anything of the sort.

Q.—Did you do anything or say anything which would be calculated to lead Dr. Brown into thinking that you desired not a medical director but a rubber stamp?

Mr. Leahy:—Objected to.

THE COURT:—Sustained. That was a mere characterization by Dr. Brown. I think you might ask him whether or not Dr. Brown's authority was limited to doing what he was directed to do by lay officers of the Board.

By Mr. Lewin:

Q.—Was Dr. Brown's authority limited to doing what he was specifically directed to do by lay members of the Board? A.—Well, as far as I know he was never restricted. I certainly never did anything to restrict him.

Q.—Do you know of anything having been done to restrict him? A.—Never heard anything of it.

(The witness left the stand.)

TESTIMONY OF WILLIAM F. PENNIMAN

DIRECT EXAMINATION

By Mr. Lewin:

Q.—Mr. Penniman, you are Mr. William F. Penniman; and you have been on the witness stand heretofore in this case? A.—Yes.

Q.—You were the first president of Group Health Association? A.—Yes.

Q.—And I believe held that office until January 1938? A.—Yes.

Q.—Do you recall a meeting at the Mayflower Hotel on the evening of June 24, 1937 between yourself, Mr. Zimmerman and Dr. Brown? A.—I do.

Q.—Did you tell Dr. Brown on that occasion that in connection with the forthcoming meeting of the District Medical Society Executive Committee he should tell them as little as possible about the plans of Group Health Association? A.—No, sir, I never made any remark like that at all.

Q.—Did you hear Mr. Zimmerman make any such remark on that occasion? A.—No.

Q.—Did you go with Dr. Brown and Mr. Zimmerman to the Medical Society Building? A.—I did.

Q.—Out in the lobby did you say to Dr. Brown or Mr. Zimmerman: "Now, don't forget, we will give them just as little information as possible," or words to that effect, meaning by them the doctors who were going to be present when you interviewed them that night? A.—I did not.

Q.—Did you hear Mr. Zimmerman make any such statement?
A.—No.

Q.—Now, as a matter of fact, when you entered the meeting, did you carry out any course of conduct designed to give the doctors with whom you were talking as little as possible of information regarding Group Health Association? A.—On the contrary—

THE COURT:—I think you may just answer yes or no.

The Witness:—We did not follow any such course as that.

By Mr. Lewin:

Q.—Do you remember how long the conference lasted?

Mr. Leahy:—It's been testified it was two hours.

By Mr. Lewin:

Q.—I would like to refresh his recollection. Did you first make a statement at that meeting that you would be glad to answer any questions?

THE COURT:—He has been all over that.

Mr. Leahy:—He has read the whole transcript two or three times.

Mr. Lewin:—There are three portions of it that I would like to read.

THE COURT:—I am not going to permit any repetition. I think that has all been gone into.

By Mr. Lewin:

Q.—You had occasion to glance at the minutes of the meeting taken by the District Medical Society doctors themselves? A.—That is right.

Q.—And would you say they rather faithfully recorded what was transpiring there?

Mr. Leahy:—Objected to as calling for a characterization; they speak for themselves.

By Mr. Lewin:

Q.—Yes. Now, on whose recommendation was Dr. Selders admitted to the staff of Group Health Association? A.—The Medical Director, Dr. Brown.

Q.—Did you receive a report from Dr. Brown dated Oct. 1, 1937 on the personnel of the staff chosen up to that time? I show you Exhibit 671. A.—Yes.

Q.—Is this the report you received from Dr. Brown? A.—Yes.

Q.—Attached to it, is it not, on the third page, is the record of the experience of Dr. Selders and certain remarks about his qualifications from Dr. Brown? A.—That is right.

Q.—I should like now to offer that in evidence, if I may, the first three pages of his report.

THE COURT:—Have you seen it, Mr. Leahy?

Mr. Leahy:—No, I have not, your Honor.

By Mr. Lewin:

Q.—Did you as president of Group Health Association ever limit Dr. Brown's activities? A.—You mean medical or otherwise?

Q.—Medical. A.—No, at no time.

Q.—Did you exclude him from making approaches to the hospitals on behalf of the staff of Group Health Association? A.—No.

Q.—It is in evidence that you wrote a number of letters to the hospitals in November 1937 and following that: Will you state the circumstances under which you rather than Dr. Brown wrote those letters?

Mr. Leahy:—Objected to.

THE COURT:—Sustained.

Mr. Lewin:—Can I show your Honor the testimony?

THE COURT:—I don't think it is necessary.

By Mr. Lewin:

Q.—Did you ever give Dr. Brown any instructions that he should send over to you unopened mail which he might receive from the hospitals? A.—I did not.

Q.—Was anything in substance to that effect done at any time? A.—No, at no time.

Q.—Did you keep Dr. Brown informed about your correspondence with the hospitals? A.—Continually and constantly.

Q.—Did you inform him of the November letter and of its contents?

Mr. Leahy:—Objected to.

THE COURT:—I think that is going beyond proper limits.

Mr. Lewin:—I wonder if I might ask him whether he brought the letters from the hospitals to the attention of Dr. Brown.

THE COURT:—I think he might answer that.

By Mr. Lewin:

Q.—Did you bring to Dr. Brown's attention currently the answers which you received from time to time from the hospitals? A.—I did; I kept him constantly informed.

Q.—Did you ever receive any objection from Dr. Brown?

Mr. Leahy:—Objected to.

THE COURT:—Sustained.

Mr. Lewin:—I want to ask him about the rubber stamp episode.

THE COURT:—Put the question similarly to the one I indicated. How long do you expect to take, Mr. Lewin?

Mr. Lewin:—I think I can complete this in five minutes.

THE COURT:—Well, I think we will adjourn until 1:30.

MARCH 31—AFTER RECESS

TESTIMONY OF WILLIAM F. PENNIMAN

FURTHER DIRECT EXAMINATION

By Mr. Lewin:

Mr. Penniman identified applications by Dr. Selders which he sent to the hospitals.

LETTER OF DR. MATTINGLY

The Court admitted a letter, Nov. 27, 1937, Sibley Memorial Hospital to Dr. Mattingly and reply dated Dec. 25, 1937.

Mr. Leahy:—Ladies and gentlemen, I wish to read a communication from Sibley Memorial Hospital, dated Nov. 27, 1937:

"Dear Doctor:

"Dr. Raymond Everett Selders has requested the privilege of treating the following in Sibley Memorial Hospital:

"Medicine

Minor and Major Surgery & Abnormal Obstetrics

Minor & Major Gynecology.

"As a member of the Advisory Committee on Medicine will you kindly indicate your approval or disapproval at the bottom of this letter and return it to the office of the President of the Hospital before Tuesday.

"Very sincerely yours,

"R. Lee Spire, M.D.

"Chairman.

"Applicant's credentials on file in the office of the President.

"Attention of the Committee is called to the fact that above applicant is one of the salaried physicians of the Home Owner's Loan Corporation Group Health Association and that information as to his qualifications and correspondence in connection with his application will be found on file in the president's office available to members of the various committees concerned for their information.

"Disapproved.

"Thomas E. Mattingly, M.D.

"Explanation appended.

Dec. 25, 1937.

"Dr. Lewis H. Taylor,
Sibley Memorial Hospital,
Washington, D. C.

"My Dear Dr. Taylor:

"As a member of the Medical Council, I have been asked to indicate my approval or disapproval of the application of Dr. Raymond Everett Selders for the privilege of practicing 'Medicine' in Sibley Memorial Hospital. Ordinarily I would regard it presumption to disapprove a candidate because in his application he requested hospital privileges, other than those it is my jurisdiction to pass upon. Yet in this particular case, I cannot ignore the fact that this applicant, just ten years out of medical school, has requested, and has certified himself as eligible to receive such additional hospital privileges that, should they be granted, it will be the equivalent of the hospital board certifying him to prospective patients, as competent to practice without restraint or exception, all of the highly specialized branches of the Healing Arts, with the possible exception of psychiatry.

"Approval of this application, in its present form, would give to a stranger in our midst privileges and sanctions not accorded to any other physician of professional eminence, practicing in our hospitals or occupying major chairs in our two, white, grade A medical schools. This rather unprecedented application for extraordinary privileges comes strangely from one whose unsurpassed erudition has not as yet been recognized by honorary degrees bestowed by appreciative universities of learning or, stranger still, has not been admitted to membership in either the American College of Surgeons or the American College of Physicians.

"I did note with interest his alleged membership in our parent body, the American Medical Association, and logically assume that he subscribes to its ideals and is obedient to its regulation and discipline. If such be the case, he will readily appreciate its injunction, making it mandatory for responsible hospital executives and hospital trustees to protect their prospective patients from the preventable hazards incident to a desultory and indifferent exercise of their appointive powers, in passing upon the qualifications of members of the visiting staff. Whereas a moderate degree of leniency and compromise is excusable, relative to their approval of general practitioners, both the American Medical Association and the American College of Surgeons most emphatically insist that the credentials of those soliciting the privilege of practicing the specialties be thoroughly and conscientiously challenged. These credentials are challenged by responsible agencies of the organized medical profession despite the fact that the applicant may be already possessed of a mandate and authority from the state, in the form of a license, to do the very act or acts he petitions the hospital board to approve.

"In this particular case, this applicant, like myself, is already licensed by the state to practice each and every branch of the Healing Arts for which he requests hospital privileges. So far as the state, in this instance the Federal Government, is concerned, both the applicant and I have a legal right to practice medicine and surgery in all of its many branches,

yet it is generally conceded that hospitals would be criminally derelict in their duty if they allowed their visiting staff the comprehensive privileges sanctioned by the law. To protect the unsuspecting patient against incompetence, poor judgment, criminal negligence and rash experimentation, any or all of which might be legally defensible, the organized medical profession, acting through the appointive power of hospital boards and hospital executives, has forced high and exacting standards of internal discipline, professional competency and ethical liability upon all hospitals, without the dutiful observance of which no hospital may continue to operate with its seal of approval.

"To this end each and every applicant for hospital privileges, particularly in the specialties, must prove beyond any reasonable doubt their indubitable fitness to receive the same. This means not only certification of professional competency but those qualities of character commensurate with the extent of the authority so delegated. I can hardly conceive of our Medical Council being so derelict in its duty and responsibility to prospective patients as to admit by inference that one person can adequately qualify as internist, obstetrician, gynecologist, nose and throat specialist and general surgeon, clothing him with authority and permission to perform the most hazardous and difficult procedures of these specialties.

"It is not unreasonable to demand that the Medical Council of Sibley Memorial Hospital apply the same conscientious rules of procedure in granting these most extraordinary privileges to a stranger in our midst as were used in the case of those of us who have been under the Medical Council's direct observation for a far longer period than this applicant has been out of medical school.

"I personally shall continue to disapprove this applicant until he with some modesty and reasonableness makes up his mind whether he desires hospital privileges as a general practitioner, nose and throat specialist, obstetrician and gynecologist, or a general surgeon. Because this applicant has reduced his own request for hospital privileges to an absurdity by the unreasonable enormity of his demands, I heartily disapprove of it and petition the Executive Committee to reject it, in its entirety.

"Fraternalty yours,

"Thomas E. Mattingly, M.D."

The Court refused to admit the applications made for Dr. Selders to the hospitals.

REPORT ON DR. SELTERS

Mr. Lewin:—Ladies and gentlemen of the jury, Exhibit 671 is a letter from Henry Rolfe Brown, Medical Director, to Mr. Penniman, President, Group Health Association, dated Oct. 1, 1937, to which is attached information regarding the staff of Group Health which had been obtained up to that time.

I am permitted to read to you the third page of the report, which relates to Dr. Raymond E. Selders. It gives his name, Raymond E. Selders; age, 44; nativity, born in Illinois; position, surgeon; salary, \$4,800.

Mr. Lewin (reading):

"Salary, \$4,800.

"Religion, Protestant.

"Marital Status, Married (No children).

"Licensed: Oklahoma, Texas; licensed in New York and Massachusetts by endorsement of National Board Credentials.

"Licensed District of Columbia.

"Degrees: B.A., University of Oklahoma, 1918.

B.S., Ch.E., University of Oklahoma, 1919.

B.S. in Medicine, University of Oklahoma, 1925.

M.D., University of Oklahoma, 1927.

M.Sc., University of Pennsylvania, 1937.

"Experience:

"July 1927 to July 1928: Interned, St. Joseph's Infirmary (two hundred and nine beds) Houston, Texas.

"July 1928 to October 1935: General Practice including surgery, Houston, Texas.

"October 1935 to June 14, 1936: Postgraduate work at Graduate School of Medicine, University of Pennsylvania, Philadelphia.

"1936-1937: Resident Surgeon, Worcester City Hospital (six hundred beds) Worcester, Massachusetts. Has performed about three hundred and thirty-eight operations which was a part of the clinical and postgraduate work taken by Dr. Selders for the purpose of securing the diploma and degree of Master in Surgery.

"Dr. Selders is an experienced surgeon and has been in practice for about seven years and is splendidly qualified by his experience as a general surgeon.

"Address: Home, 2445 15th Street N.W.

"Telephone: Adams 5302."

Mr. Lewin:—That concludes the case for the Government.

EVIDENCE IN SURREBUTTAL ON BEHALF OF THE DEFENDANTS

TESTIMONY OF HENRY ROLFE BROWN

DIRECT EXAMINATION

By Mr. Leahy:

Q.—I am showing you what has been just identified and read as U. S. 671. I am showing you the third page thereof. Would you look at that and see if you can identify it as anything which you wrote? *A.*—Yes, this was the letter of recommendation for Dr. Selders and the others for a position on the staff of the clinic of G. H. A. on I Street.

Q.—And referring to that portion of the third page which states:

"Dr. Selders is an experienced surgeon and has been in practice for about seven years and is splendidly qualified by his experience as a general surgeon,"

what did you mean? *A.*—I referred to his work in the clinic. We had no general outside work, of course, in hospitals, and Dr. Selders was to take care of the clinic and the minor surgery of the clinic.

TESTIMONY OF EDWIN A. MERRITT

DIRECT EXAMINATION

By Mr. Leahy:

Edwin A. Merritt said he is a practicing physician in the District of Columbia, specializing in radiology.

Q.—And will you just tell us without going into detail what radiology is? *A.*—Radiology is the use of radium energy in the diagnosis and treatment of diseases, both x-ray and radium.

He graduated from the University of Nebraska in 1904. After seven years of country practice he went to Rush Medical College in Chicago for internal medicine. Then he took up x-ray in Council Bluffs, Iowa, in 1912.

Q.—Doctor, I want to ask you what length of time is required in order to make a diagnosis of a condition of the chest where an x-ray is taken of the chest.

Mr. Lewin:—Objected to.

THE COURT:—Overruled.

The Witness:—Well, there are two different procedures, as a matter of fact. One consists of taking x-ray films or plates of the chest and the subsequent reading of them. That involves one period of time. There is another medical examination which is used sometimes, or a fluoroscopic survey of the chest is made, and then a plate is made; that takes another. From the start we will say; we begin now and make a fluoroscopic examination of a person's chest. It would take about thirty minutes.

By Mr. Leahy:

Q.—If you had an x-ray taken of the chest, how long would it take to make the x-ray and interpret it? *A.*—We take the x-ray film: the matter of getting a person undressed takes the larger part of the time. The taking of the films is a matter of a few seconds; developing is ten minutes; drying thirty minutes; and reading, five minutes.

Q.—What is a fluoroscopic examination? *A.*—It is an examination of the patient before a fluorescent screen and it penetrates the patient's body and is reflected on a screen. It must be done in an absolutely dark room and the eyes must be perfectly accommodated to it.

Q.—How long does it take to make such an examination? *A.*—To begin, it would take a minimum of twenty-five to thirty minutes, because you have to allow twenty-five minutes for adjustment of the eyes for the dark room. That is an invariable rule; the actual examination consumes perhaps five minutes.

Q.—Is there any difference between the times required to interpret an x-ray of the gastrointestinal tract and chest? *A.*—Yes, it takes longer, of course; gastrointestinal is a longer procedure.

Q.—How long would you say? *A.*—As a matter of fact, a complete gastrointestinal involves a study of an individual over three successive days, and the reading of the film ten to fifteen minutes, reviewing the fluoroscopic evidence; the evidence secured in the three previous examinations; reviewing that evidence plus the films that are taken consumes perhaps ten minutes, maybe fifteen minutes.

Q.—Could the process be done in four or five minutes? *A.*—No, sir; it could not.

Q.—Could the x-ray plate on the chest be taken and interpreted in a minute? *A.*—In a minute?

Q.—Yes. *A.*—Not at all sir; no, sir.

Q.—Where pathology is indicated does it make any difference as to the time for the interpretation of the x-ray plate? *A.*—No—well, yes, in a way, where there is the presence of pathology, the presence of abnormality, it leads to additional study and it takes longer, because if conditions are obscure you might spend hours on an x-ray examination.

CROSS EXAMINATION

By Mr. Kellcher:

Q.—The interpretation of an x-ray plate is the study of the x-ray plate after the picture has been taken, is it not? *A.*—That is right.

Q.—And you say it takes five minutes for an x-ray of the chest, ordinarily? A.—I should say a fluoroscopic examination of the chest would consume five minutes, probably.

Q.—And of the gastrointestinal tract ten to fifteen minutes for the interpretation? A.—I suppose, on the average, fifteen minutes; yes, sir.

TESTIMONY OF DR. JOSEPH S. WALL

DIRECT EXAMINATION

By Mr. Leahy:

Joseph S. Wall said he has been a practicing physician in the District of Columbia for forty-five years. He graduated from Georgetown University Medical School in 1897. Then he did postgraduate work in New York, the New York Post Graduate School, and postgraduate work in Oxford, England. He now devotes his work exclusively to pediatrics.

Q.—Doctor, do you know Dr. Scandiffio? A.—I do.

Q.—How long have you known him? A.—I cannot tell exactly, but I think for a period of eight or ten years.

Q.—At any time was he studying his profession or practicing it under your direction? A.—He was my associate at the Children's Hospital for a number of years, and also was associated with me in the teaching of pediatrics at Georgetown Medical School.

Q.—Do you recall, Doctor, some time in the early fall of 1938, a conversation between Drs. Selders, Price and Scandiffio at your office? A.—I do.

Q.—Do you recall the date of that conversation? A.—It was not in the fall. It occurred on the Wednesday after Christmas 1938. I cannot remember the date because I have no calendar for 1938.

Q.—Do you recall now, Doctor, how that conversation came about?

Mr. Lewin:—We object, because it is beyond the scope of the indictment. The time has not been fixed. It is evidently to contradict Dr. Scandiffio. The time was not fixed at the time when he was on the stand, and it now appears that the conversation took place after the indictment period.

Mr. Leahy:—It would not make any difference.

THE COURT:—Did you bring it out in your cross examination?

Mr. Leahy:—Yes, I did, your Honor.

THE COURT:—It was collateral, was it not?

Mr. Leahy:—No, your Honor; I don't think so. May I approach the bench and give your Honor my theory?

THE COURT:—Yes.

(Counsel for both sides approached the bench and conferred with the court in a low tone of voice.)

(Counsel resumed their places at the trial table.)

By Mr. Leahy:

Q.—Doctor, can you recall now who was present at the time this conversation occurred? A.—Dr. Scandiffio, Dr. Price, Dr. Selders, Dr. Macatee and myself.

Q.—Where did the conversation take place? A.—It took place in my office.

Q.—At whose request? A.—At the request of Dr. Scandiffio.

Q.—How arranged? A.—Dr. Scandiffio called me by telephone on December 23 and asked if he could talk with me about a matter which he could not discuss by telephone. I arranged an appointment at 9 o'clock in the morning, the day before Christmas, and he came in to see me. Shall I state what he told me?

Q.—Was he there on that occasion himself? A.—He was there alone on that occasion. He asked me to arrange a meeting with himself and other members of the Group Health Association and with one or more of my colleagues in the Medical Society. I went the next day to see Dr. Mallory, the president of the Society, and talked with him and we agreed upon Dr. Macatee as being one of the senior members of the Medical Society.

Q.—And then in pursuance of that conversation did a talk occur at which Dr. Scandiffio, Dr. Price and Dr. Selders were present? A.—It did. As the result of this meeting with him on that morning I arranged to meet him on the following Wednesday evening when those three doctors were present, and Dr. Macatee and myself.

Q.—Doctor, I want to ask you if, in substance, those three gentlemen did not tell you—

Mr. Kellcher:—That is leading, isn't it?

Mr. Leahy:—I will ask for the conversation if you want me to.

THE COURT:—If you would rather proceed to put the direct questions by way of impeachment—

Mr. Leahy:—I think I will limit it to what Dr. Scandiffio said, because I think that is within your Honor's ruling.

THE COURT:—The conversation was in the presence of Dr. Scandiffio and the three of them. There was one conversation participated in by several of them. So it is a little difficult to differentiate. But confine your questions to the questions put to Dr. Scandiffio.

Mr. Leahy:—I will try to do that, your Honor.

By Mr. Leahy:

Q.—Doctor, do you recall that in that conversation the doctors stated to you that they were so dissatisfied with the work which they had to do down at the clinic that they wanted to resign in a body? A.—Yes. That was the substance of the conversation at the conference. Dr. Scandiffio—

THE COURT:—Just answer the questions, Doctor. Was that the substance of it, the best you can recall?

The Witness:—Yes, sir.

By Mr. Leahy:

Q.—Then did those doctors ask you if you would try to do something for them so that they could have a living, or words in substance to that effect, if they resigned? A.—If they did resign they asked Dr. Macatee and myself if we thought they would be taken back into membership in the Medical Society, and, secondly, Dr. Selders asked if he could be accorded hospital privileges if he resigned from Group Health Association. Dr. Macatee and I replied—

Mr. Lewin:—We object to the reply.

By Mr. Leahy:

Q.—Then did they say that the other members of the staff of Group Health Association would probably resign in a body if they resigned? A.—They did.

Q.—And that that would probably result in breaking up G. H. A.? A.—They did.

CROSS EXAMINATION

By Mr. Lewin:

Q.—Doctor, are you a member of the District Medical Society? A.—Yes.

Q.—How long were you a member of the District Medical Society prior to the fall of 1937? A.—I think, about thirty-nine years. About two years ago I was put on the life membership basis because I had served forty years.

Q.—Have you ever been a member of its Executive Committee? A.—Yes.

Q.—Do you remember when? A.—It was in the three years following, I think, 1926. At that time I was president of the Society and upon retirement I served three years on the Executive Committee.

Q.—Did you ever have occasion to state to Dr. Woodward, a defendant in this case, that you had regretted that Dr. Scandiffio had gone into the camp of the enemy, together with five other members—meaning by "the camp of the enemy" joining Group Health Association? A.—I probably so stated; yes, because I did regret it.

Q.—You all called the Group Health Association the camp of the enemy and so regarded it? A.—If I so stated in the letter, I did.

Q.—Did you say on Nov. 1, 1937 "I feel that this group of physicians"—meaning the Group Health doctors—"will have visited upon them the displeasure of the medical profession in Washington and will probably become medical outcasts, so far as we are locally concerned"? A.—Yes, because that was my belief.

Q.—Did you also call the A. M. A.'s attention to Dr. Richard Cabot's address on the occasion of the opening of Group Health Association and suggest that some disciplinary proceedings be taken against him for that? A.—I did.

Mr. Leahy:—I object to that.

THE COURT:—Sustained. That goes further than my ruling.

By Mr. Lewin:

Q.—Did you also say to Dr. Woodward in that letter that "You," meaning the group of doctors in the Medical Society of the District of Columbia, "should certainly be grateful for the help which may be accorded us by the American Medical Association"? A.—I did.

Mr. Leahy:—I object, if your Honor please. It is beyond your Honor's ruling.

THE COURT:—That answer may stand.

TESTIMONY OF DR. HENRY C. MACATEE

DIRECT EXAMINATION

By Mr. Leahy:

Q.—Doctor, I want to direct your attention immediately to a conversation held in the fall of 1938 at the office of Dr. Wall at which Drs. Scandiffo, Price, Selders and you were present with Dr. Wall. Do you recall the occasion? A.—I do.

Q.—Were you present? A.—I was.

Q.—And the three doctors whom I have mentioned, Drs. Selders, Price and Scandiffo? A.—They were all present.

Q.—And a conversation was had there between the five of you? A.—There was.

Q.—I want to ask you, Doctor, if in substance this was said by the doctors who were there with you and Dr. Wall.

Mr. Lewin:—Objected to as being beyond the scope of the indictment.

THE COURT:—Objection overruled.

By Mr. Leahy:

Q.—That they were dissatisfied with the work which they were called on to do at the G. H. A. clinic and were prepared to resign in a body? Did they so state? A.—That is true.

Q.—Did they further state anything to the effect that if they resigned, probably the other members of the staff would likewise resign? A.—That was my understanding.

Q.—Did they further state to you that in the event they all resigned in this fashion it would probably break up G. H. A.? A.—That was my understanding.

Q.—And then did they ask you two gentlemen if you would try to do something for them in the shape of helping them out if they did resign and if the remaining members of the staff of G. H. A. resigned? A.—They did.

Mr. Leahy:—That is all.

Mr. Lewin:—No questions.

DEFENSE RESTS

THE COURT:—Members of the jury, you will be excused until Wednesday morning at 10 o'clock. Be here when court is opened, a few minutes early. In the meantime, be very careful to observe the admonition that I have given you before.

PRAYERS AND MOTIONS

(At 2:45 o'clock p. m., court and counsel proceeded to the chambers of Associate Justice Proctor, where the following proceedings took place:)

THE COURT:—I am refusing the general prayer for a directed verdict.

Mr. Burke:—Are you going to hear us on any motions for a directed verdict?

THE COURT:—No.

Mr. Burke:—We are very anxious to present certain points to you.

THE COURT:—You can make the motion on the record and it will be denied.

Mr. Richardson:—I might just as well submit four other motions here, and possibly it would be better if I read them right into the record.

THE COURT:—Either that, or hand them to the reporter.

Mr. Lewin:—That is better.

(The four motions referred to and submitted by Mr. Richardson are as follows:)

MOTION TO STRIKE (BACKGROUND)

Now Come the above named defendants, jointly and severally, and move the Court to strike from the record and advise the jury not to consider any and all evidence submitted in the record relating or having reference to the so-called background of the conspiracy and consisting of evidence with respect to acts and deeds of the defendant American Medical Association, its officers and agents, occurring and transpiring outside of the District of Columbia and prior to Jan. 1, 1937, on the ground that such evidence and the whole thereof is incompetent, irrelevant, and immaterial to any of the issues in the above-entitled action.

Respectfully submitted.

MOTION TO STRIKE (HOSPITALS)

Now Come the above named defendants, jointly and severally, and move the Court to strike from the record and advise the jury not to consider any and all evidence submitted in the record relating or having reference to the so-called Washington hospitals for the purpose of proving that said hospitals were co-conspirators with the defendants herein upon the ground and for the reason that said evidence and the whole thereof is insufficient, as a matter of law, to make or constitute the said hospitals or any of them co-conspirators as charged by the Government and alleged in the indictment.

Respectfully submitted.

MOTION TO DIRECT VERDICT

Now Come the above named defendants, jointly and severally, and move the Court to direct and advise the jury to return a verdict of not guilty in the above-entitled proceeding upon the ground and for the reason that the record in said case, and the whole thereof, shows as a matter of law that Group Health Association, its officers, members and operations were, with reference to all matters shown in the record, unlawfully engaged in the practice of medicine in the District of Columbia in violation of the laws applicable thereto, and were not, and none of them, unlawfully subject to or affected by any alleged restraints as charged and identified in the indictment.

Respectfully submitted.

MOTION TO DIRECT VERDICT

Now Come the defendants, jointly and severally, and move the Court to direct and advise the jury to return a verdict of not guilty in the above-entitled proceeding as to all defendants, upon the ground and for the reason that the facts, acts, and circumstances, as shown by the evidence, and the entire record herein submitted does not establish or tend to establish any violation of Section 3 of the Sherman Act relating to trade or commerce, as set forth or defined in said Act.

Respectfully submitted.

THE COURT:—The first and second ones will be refused. The third is what we have been through before, and there is nothing new there. The fourth is also refused.

DISCUSSION ON PRAYERS

(The prayers of the respective parties were submitted and are published with the action of the Court noted. In the discussion the Court indicated he would not read the prayers to The jury but would incorporate them in his instructions.)

For the general interest of the readers some of the points discussed are here noted:

The Court said: "I never call the attention of the jury to the failure of a defendant to take the stand unless the defense itself asks me to do so and to explain the rule that no presumption should be taken. I am afraid it would be an error to do it, just as much for me as for counsel, unless it is asked.

Mr. Kelleher:—This is as to the ones that took the stand.

THE COURT:—But it brings the others in, and the next prayer couples up with it.

Mr. Richardson:—It is an incorrect statement of the law, because there is no such thing as to "consider the temptation which arises under such circumstances to testify to a state of facts favorable to himself."

Mr. Lewin:—Oh, yes.

THE COURT:—They have the right to consider the vital interest they have in the outcome of the case. But I will refuse this prayer for the reasons I have stated. I think that what I shall say on that will be satisfactory.

Mr. Richardson:—Of course, twenty-two cannot be so. That is, it cannot be so and keep the society in existence.

Mr. Kelleher:—It probably ought to be dissolved; if we get a verdict then maybe it will be.

Mr. Leahy:—The trouble is you are argumentative in your instructions. You cannot assemble points of evidence and throw them to the Court and ask the Court to argue it for you.

THE COURT:—Well, I think you are entitled in a colorless way to have the rule stated, without argument, that if they did in fact conspire to restrain, and they find that beyond a reasonable doubt, then the use of ethics and those other things as justification for it would afford no justification. That is very roughly stated, but that is what you mean.

Mr. Lewin:—That is it.

THE COURT:—I will revise it.

THE COURT:—I instruct them very carefully that the indictment is no evidence and raises no presumption of guilt, but on the contrary there is a presumption of innocence.

Mr. Lewin:—We would like to get away from these good motives.

Mr. Richardson:—I don't blame you.

THE COURT:—You said this was not sufficient?

Mr. Kelleher:—Here is what we were after in this charge: that it makes no difference if they find that Group Health did in fact violate the principles of ethics or that the defendant believes that they did.

THE COURT:—Yes, I understand. Of course, I shall tell them that it is unquestionably the law they are not required to live up to the ethics of the American Medical Association. They are not required to have the ethics and standards of the Association. If they didn't have it, it would make no difference.

Mr. Richardson:—And if as a result of their not living up to the principles of ethics and they desired to associate with those who do, and are not accepted, they get what they deserved.

Mr. Leahy:—You can't make anybody consult with somebody else.

Mr. Kelleher:—If they refused to consult in order to drive G. H. A. out, it is illegal regardless of the reason. Even if they thought it was unethical.

THE COURT:—If they thought it was agreed that "we are going to rush G. H. A., put it out of business; and we are going to do it by enforcing our rules of ethics" against them, then, of course, you have a conspiracy.

Mr. Richardson:—But you cannot take the action that was directed against G. H. A. and prove backwards by inference how the thing started.

THE COURT:—No, I can't say to the jury you have to assume that they did these things. The first thing is to find out whether they had a conspiracy.

Mr. Leahy:—What you want the Court to say is the refusal to consult amounts to conspiracy.

Mr. Lewin:—Well, here is a concerted refusal.

Mr. Kelleher:—If it is a refusal to consult for the purposes charged in the indictment, it is illegal.

THE COURT:—I am underscoring here "if a conspiracy"; then "employment of ethics, et cetera, to restrain would not be a defense"; the violation of ethics by G. H. A.

Mr. Lewin:—Or the belief on the part of the defendants that G. H. A. had violated these ethics.

Mr. Leahy:—I would like your Honor also to state that these various pieces of evidence are not proof per se of conspiracy.

THE COURT:—I shall tell them that there was no legal obligation, legal ethical obligation on the part of any physician to consult with any other physician.

Mr. Leahy:—Therefore even though they find that the members of the society refused to consult with G. H. A., they must further find that that was done with intent to destroy it.

THE COURT:—You see, let us assume that these regulations against consulting, et cetera, are an unlawful agreement to restrain physicians in medical practice. That is not what you are charged with. We don't have to deal with that.

Mr. Richardson:—No, but you have this situation: Here is a group of people in a meeting. Oh, they are confederating; one says something; they are all conspirators because of the very fact they were in a meeting. You are dealing with a society.

THE COURT:—I know you are arguing the matter now, but as a matter of fact anything that brings alleged conspirators together is a thing that may be considered by the jury whether it is reasonable or not, and the thing, in view of the fact that they are members of the society, will be argued on the one side; and whether it is unreasonable and may be treated as the act of a conspirator, may be argued on the other. That is a matter for argument. I cannot say the fact that men got together, this is some evidence. I can't consider it one way or the other, and I don't want to.

(To be continued)

MEDICAL ECONOMIC ABSTRACTS

MEDICAL SERVICE ADMINISTRATION OF NEW JERSEY

Before proceeding with the organization of any prepayment plan, the Medical Society of New Jersey made extensive preparation. New Jersey had been one of the most successful states in the operation of care for the indigent under the FERA and derived much valuable information concerning the provision of medical service through this experience. The state medical society had also participated thoroughly in the national study of "Medical Care in the United States—Demand and Supply" and prepared one of the most elaborate reports on the results of that study. As early as 1938 the Medical Society of New Jersey dedicated itself to three objectives:¹

1. To make available to every man, woman and child in New Jersey adequate personal and sympathetic medical care, preventive and curative, at the lowest cost compatible with efficient service.

2. To preserve for all the people of New Jersey, regardless of income, the free choice of physicians among those licensed by the state to engage in the healing art.

3. To advance medical science, elevate professional standards, foster friendly relations between doctors and promote mutual understanding between the doctors and the public.

A voluntary health insurance fact finding committee was appointed in October 1938 and submitted a report to the meeting of the house of delegates in June 1939. This report contained the outlines of a proposed plan, which was then kept under continuous discussion and frequent revision for several months. The plan was finally incorporated on Oct. 27, 1939 as the Medical Service Administration of New Jersey. The administration is directed by a board of governors of eight members appointed by the board of trustees of the Medical Society of New Jersey. At least five of these are to be members of the medical society. Their terms are to be overlapped. The board of governors determines all policies, rules and regulations and appoints all administrative personnel, including a medical director and such assistant medical directors as are considered necessary.

An advisory committee in each county is composed of members appointed by the board of governors subject to the approval of the county medical society. All licensed physicians are entitled to become professional participants on application and agreement to abide by the rules and regulations.

Beneficiaries must reside in or be employed in the state of New Jersey. A single person or the head of a family must not receive an income of more than \$1,600 annually, with an allowance for the first dependent of \$400 and \$200 for each additional dependent. If more than 65 years of age, a satisfactory physical examination is required. Married women are not accepted unless the husband is also included in the plan. Only persons within groups of not less than ten persons are admitted without physical examination.

The subscription rates have been fixed as follows:

Subscribers	\$1.50 per month
First dependent	1.25 per month
Second dependent	1.00 per month
Third dependent .....	.50 per month
Fourth dependents .....	.50 per month
Other dependents	No extra charge

Service in the office, home and hospital is covered. Medical and surgical services are available immediately in case of accident, but elective surgery is not provided during the first year. Drugs, nursing care, surgical appliances and maternity care during the first contract year, except antepartum advice, are also not furnished. There are the usual exclusions of functional mental, nervous and venereal diseases, institutional tuberculosis, drug addictions and injuries covered by workmen's compensation.

The administration will pay to participating physicians for the necessary services rendered by them to beneficiaries such fees as are determined by the board of governors. The fees will be based on the charges which the board determines are usually and ordinarily made by physicians, in the certain locality involved, to patients of like responsibility and financial circumstances, for services identical with or similar to those rendered the beneficiary; and further, according to the amount of money available to the administration for the payment of physicians' fees. Payment for roentgen ray services will be limited to \$15 annually per individual beneficiary.

The certificate of authority to operate was accepted on March 25, 1941. At the present time the Medical Service Administration is qualified to operate in thirteen counties and a number of others are preparing to qualify for the plan. The physicians have readily entered into the agreement to participate. In twenty-one counties with a total membership of the Medical Society of New Jersey of 3,767 there were on March 26 2,172 physicians who had signed agreements. No report has yet been issued on the number of beneficiaries who have entered into the plan.

1. Carrington, W. J.: Objectives and Administrative Policies of the Medical Society of New Jersey for 1938-1939, J. M. Soc. New Jersey 35: 374 (June) 1938; The President's Annual Report, ibid. 36: 257 (May) 1939.

MEDICAL CARE IN NEW YORK STATE

In 1939 the New York legislature appointed a committee to "formulate a long range state health program." This committee has just issued its report.¹ There is a study of medical care in welfare districts and of various features of health care by hospitals and public institutions.

Various plans of voluntary insurance including "group practice" and prepayment plans of state medical societies are discussed. It is concluded that "Whatever may be done to fill the present gap, voluntary prepayment plans will still be needed. They are susceptible of certain expansion and ought to be developed—along sound lines and in a socially desirable direction."

The history of compulsory health insurance in the United States is followed with a discussion of systems in foreign countries, and the necessity for placing administrative responsibility in the medical profession is recognized. It is somewhat surprising to read as one of the "lessons from experience" that "restoration and improvement of health, originally a by-product of the plans, has become a major objective." No example of this trend is cited. Another lesson is that:

Administration of compulsory sickness insurance has been severed from some of its worst original features by the development of professional supervision of professional services and by the attempts to create efficient large-size administrative units.

Experience has also shown that no human being has been able to present a formula which suits all.

It would be indefensible indeed if any state in this country imported and repeated the mistakes made abroad. Foreign experience can clearly demonstrate stumbling blocks and shortcomings which must and can be avoided. From the oldest law, the German, we can learn how detrimental it is if the medical profession is kept out from active participation in administering sickness insurance.

In considering the "problems of compulsory health insurance with special reference to New York State" the report says:

Compulsory health insurance has proved to be primarily feasible for industrialized areas with large and stable groups of employees working for salaries or wages, and a densely settled population. The problem in the rural areas is so loaded with difficulties that it would be a waste of effort to consider health insurance for residents of such areas as long as there

is no established program in the industrial areas. In a state in which a substantial part of the population consists of independent farmers and persons employed in agriculture, support of compulsory health insurance by contributions would be insufficient, and considerable allocations from taxation would be needed.

Emphasis is laid on the "necessity for coordination of any proposals for compulsory health insurance with existing voluntary and public health and welfare activities." There are no specific recommendations for legislative action.

PRIVATE PRACTICE IN GERMANY

An incident in connection with a proposal to revise payments to physicians in Germany during and after the war has shown that in spite of more than half a century of sickness insurance German physicians still object strenuously to further incursions on private practice. The plan suggested that physicians who were receiving fees in private practice in addition to their income from insurance should have these fees included in a scheme for the equalization of physicians' incomes. The advocate of the plan, Dr. J. Hartmann,¹ replies to some of these criticisms. In listing the objections that have been raised to his plan by physicians, he says that these ask "Where did I get the right to interfere with the private practice of my confrères and to abolish the last remnant of medical freedom, namely, the income from private practice, and thereby transform the physicians into officials"? He denies strenuously that he has any intention of interfering with private practice. He insists, however, "that the need for physicians in the new reich is so tremendous and so difficult to meet that we simply cannot permit any physician to be excluded from insurance practice." He continues in words that must sound somewhat strange to those who believe that German physicians are all converted to some sort of "socialized medicine": "In many of the communications I have received, the fear of further measures of socialization or of a threatening regimentation plays an important part." He is also emphatic in insisting that there is no intention to interfere with that "confidential relation" between physician and patient which he recognizes as an essential factor in good medical care.

1. Hartmann, J.: Once More: The Division of Fees During and After the War, *Deutsche Aerzteblatt* 70: 509 (Nov. 30) 1940.

WOMAN'S AUXILIARY

California

A review of "For Whom the Bell Tolls" was given by Mrs. V. W. Bours at the February 21 meeting of the Alameda County auxiliary; nearly 300 attended the "Husband's Dinner," March 4.

The Fresno County auxiliary, of which Mrs. Otto Diederich is president, had as its May meeting a box supper at the home of Mrs. J. R. Walker. Each box sold for 25 cents and the money collected was added to the fund for needy doctors. A communication from the secretary of the British War Relief thanking the auxiliary for its contribution was read.

Audiometers were presented to the Santa Cruz and Watsonville schools to aid children with defective hearing by the Santa Cruz auxiliary membership.

On March 11 a health conference was sponsored by the San Diego auxiliary in conjunction with the county medical society. The California Physicians' Association plan was discussed. A "Medical Information Please" panel was given. Three doctors sit informally at a table with an auxiliary member who asks questions of first one, then another. The questions are answered as briefly as possible. The audience has shown a great interest.

One hundred and sixty members and guests attended the San Francisco meeting, at which presidents of women's clubs were invited to hear Dr. Chauncey Leake, professor of pharmacology at the University of California, speak on the "San Francisco Blood Bank." Guests were taken to see the medical society's blood bank, which is installed in the home of the society.

Miss Behrens of the Sonoma County Hospital gave an illuminating talk at the Sonoma meeting in Santa Rosa last month on "The Nurse Practice Act" and the "Trained Attendant Act."

Lloyd C. Douglas, writer and lecturer, addressed 162 regular members, 35 new members and representatives of the press at the Los Angeles meeting on "Mental Defense."

Georgia

A questionnaire game similar to radio quiz programs was played at the recent meeting of the Woman's Auxiliary to the Bibb County Medical Society, held at the home of Mrs. C. C. Harrold, in Macon, with Mrs. C. H. Richardson as co-hostess. Mrs. J. L. King, acting as interrogator, asked questions about the auxiliary and the national medical association. Members brought toys for the children's ward at the Macon Hospital.

New York

The regular meeting of the Onondaga County auxiliary was held in the Syracuse Memorial Hospital, March 4, Mrs. Edgar M. Neptune, presiding. Dr. Robert Ainslie, pathologist of Syracuse Memorial Hospital, spoke on "His Experiences in China." A skit representing "A Model Meeting" was portrayed, Mrs. Winthrop Pennock acting as chairman. Over \$2,500 worth of medical equipment and medicine were collected by the public relations committee for the Bundles for Britain, Mrs. Nobel Chambers acting as chairman.

Texas

The December meeting of the Dallas County auxiliary at Dallas was in the form of a wedding anniversary party and a style show of wedding gowns of various periods. The choral club of the auxiliary, under the direction of Mrs. Joseph Wolf, furnished the music and introduced each bride with songs

popular in the year she was wed. Mrs. Gordon B. McFarland was in charge of arrangements for the party.

The Jefferson County auxiliary held its annual Christmas party. Mrs. J. D. Thompson, Port Arthur, president of the auxiliary to the South Texas District Medical Society, introduced the guest of honor, Mrs. William Hibbitts, of Texarkana, president of the state auxiliary. Wives and daughters of members of the Jefferson County Medical Society sang Christmas carols under the direction of Mrs. R. B. Leggett, accompanied by Mrs. H. B. Williford.

Wisconsin

Mrs. D. F. Gosin addressed eighteen members of the Fond du Lac auxiliary on the aims of the organization at the October meeting. This auxiliary has voted an appropriation for the Children's Home, makes bandages for the Red Cross and sponsors a Girl Scout Troop.

Miss Beatta Geiger spoke to the Douglas County auxiliary on the Womens' Industrial Home at Taycheedah. Sixteen members attended the December meeting and voted to give twenty-six *Hygeia* subscriptions to rural schools this year, an increase of eight over last year.

Seventeen members of the Winnebago County auxiliary, of which Mrs. W. N. Linn of Oshkosh is president, voted to place *Hygeia* in the beauty parlors of Oshkosh, Neenah and Menasha. Members are knitting and making surgical dressings and layettes

for the Red Cross and layettes for the Visiting Nurses Association.

"The Doctor and Democracy," a speech by Dr. Eben J. Carey, dean and professor of anatomy at Marquette University School of Medicine, given by him at the annual dinner at the state medical society at Milwaukee, was read to the Rock County auxiliary members at their November meeting by Mrs. W. W. Crockett. A report of the Philanthropic Committee revealed gifts of eighty glasses of jelly, Thanksgiving favors for patients' trays and Christmas packages to Pinehurst Sanatorium, Janesville. This committee has a project for each month of the year. The Rock County auxiliary is devoting three to five minutes of each meeting to *Hygeia*, discussing its interesting articles. This auxiliary has gone "over the top" with subscriptions this year.

Part of the philanthropic work of the Waukesha County auxiliary this year has been the presentation of Christmas gifts to boys at the Wisconsin Home and Farm School at Dousman.

Twenty members of the Kenosha County auxiliary met in December at Kenosha and voted a gift of \$10 value and a one year subscription to *Hygeia* to four hospitals and a one year *Hygeia* subscription to the Orthopedic School.

The Dodge County auxiliary of which Mrs. A. W. Hammond of Beaver Dam is president is making layettes for use by the county and city nurses and presented Christmas baskets, magazines, books, playing cards and games to two hospitals and the Dodge County Infirmary.

MEDICAL LEGISLATION

MEDICAL BILLS IN CONGRESS

Changes in Status.—The Senate Committee on Education and Labor, April 29 and May 2, reconsidered the Murray bill, S. 783, relating, among other things, to the deferment of medical students, interns and residents under the Selective Training and Service Act. No action was taken by the committee. It is reported that further consideration will be given the bill on May 16. H. R. 4293 has been reported to the House, providing that any person who furnishes blood for transfusion into the veins of any person entitled to and undergoing treatment at government expense, or who shall furnish blood for blood banks or for other scientific and research purposes, shall be entitled to be paid therefor a sum not to exceed \$50 for each blood withdrawal.

DISTRICT OF COLUMBIA

Bills Introduced.—S. 1349, introduced by Senator Bilbo, Mississippi, proposes to create a Board of Funeral Directors and Embalmers for the District of Columbia. S. 1423, introduced by Senator Reynolds, North Carolina, and H. R. 4498, introduced by Representative Randolph, West Virginia, propose to authorize the Federal Security Administrator, on application of the Secretary of State, to admit to St. Elizabeth's Hospital, for treatment, insane persons belonging to the Foreign Service of the United States who are legally adjudged insane in any foreign country and whose legal residence in one of the states, territories or the District of Columbia it has been impossible to establish.

STATE MEDICAL LEGISLATION

Florida

Bills Introduced.—S. 267, to amend the Uniform Narcotic Drug Act, proposes, among other things, that the provisions of the act shall not apply to the administering, dispensing or selling at retail of any medicinal preparation that contains in 1 fluidounce, or if a solid or semisolid preparation in 1 avoirdupois ounce, not more than 1 grain of codeine or any of its salts. The present law provides a similar exemption with respect to preparations which in the quantities stated do not contain more than 2 grains of opium, one-fourth grain of morphine, 1 grain of codeine, $\frac{1}{8}$ grain of heroin or $\frac{1}{2}$ grain of extract of cannabis. S. 318, to amend the chiropractic practice act, proposes, among other things, that "Any chiropractor who has complied with

the provisions of this Act may: (1) Examine, analyze and diagnose the human living body and its diseases by the use of any physical, chemical, electrical, thermal or radionic method, and use the x-ray diagnosing, and may use any other general method of examination for diagnosis and analysis taught in any school of chiropractic recognized at any time by the Florida State Board of Chiropractic Examiners. (2) Chiropractors may adjust, manipulate or treat the human body by manual, mechanical, electrical, or natural methods, or by the use of physical means, Physiotherapy (including light, heat, water or exercise) or by the use of foods and food concentrates, food extracts, and may apply first aid and hygiene, but chiropractors are expressly prohibited from prescribing or administering to any person any medicine or drug included in *Materia Medica* or from performing any surgery except as hereinabove stated or from practicing obstetrics." H. 356 proposes to authorize a county having a population of 250,000 or more to establish and operate a hospital for the care of such residents of that county as may have been committed to the hospital for the insane of the state of Florida. H. 428 proposes to prohibit the operation of a convalescent home for the care of persons recovering from illness, semi-invalids, or persons of unsound mind, unless the home is in the charge and under the direction of a duly licensed physician, or unless a licensed physician is employed to visit and direct the care of the patients of the home at least once a week. H. 497 proposes to enact a separate practice act for medical technologists and to create a board of medical technologists to examine and license persons desiring to practice as registered medical technologists. The bill defines a "Medical Technologist" as a natural person who is engaged in the practice of approved or experimental technical procedures, the results of which are interpreted by the physician in the diagnosis of disease. After July 1, 1942 the bill proposes to make it unlawful for any person not registered by the board to practice as a medical technologist. However, the bill is not to apply to an office assistant or a nurse who in addition to his or her routine duties performs laboratory procedures the results of which are used only by the employer physician in his private practice of medicine and who assumes responsibility for the work so performed. An applicant for registration must present evidence satisfactory to the board that he has satisfactorily persued at a reputable college or university an eight hours course in biology (of which four hours must be in zoology),

three hours in bacteriology, eight hours in inorganic chemistry and four hours in organic chemistry.

Illinois

Bill Introduced.—H. 629 proposes so to amend the Uniform Narcotic Drug Act as to include within the definition of "narcotic drugs" diethyl-barbituric acid.

Michigan

Bill Introduced.—S. 322 proposes to appropriate \$50,000 to the superintendent of public instruction "to be expended in assisting the education of children and adults afflicted with speech impediments." S. 382 proposes to enact what is cited as the "Uniform Michigan, Food, Drug and Cosmetic Act" to regulate the manufacture, sale, distribution and advertising of foods, drugs, cosmetics and therapeutic devices.

Missouri

Bill Introduced.—S. 185, to amend the medical practice act, proposes that "any person who having attended any medical college, and has received at least three courses of lectures from any medical college or colleges, and has had at least one course as practitioner in any general or special hospital, who is now and has been for a period of at least twenty years a resident of the state of Missouri, and who has during twelve years of such time been actively engaged in the practice of medicine in the locality where he resides, shall be regarded as a licensed and registered physician under the provisions of this act."

New Jersey

Bills Introduced.—S. 345 proposes that judgments entered against a decedent in his lifetime, funeral charges and expenses, and the hospitals', physicians' and nurses' bills during the last sickness shall have preference and be paid first out of the personal and real estate of the decedent. Committee Substitute for Assembly 60 and 257, to amend the laws relating to the practice of chiropody, proposes to clarify the statement as to the scope of a license to practice chiropody.

Oklahoma

Bills Introduced.—H. 545 proposes to enact a separate physiotherapy practice act and to create a board of physiotherapy to examine and license applicants for licenses to practice physiotherapy. The bill states "For the purpose of this Act Physiotherapy is defined to be the employment of the following methods: Hydrotherapy, electrotherapy, massage, baths, thermotherapy, heliotherapy, light-therapy, corrective gymnastics and diet for the stimulation and correction of the human body." H. 549 proposes that no ambulance shall be used for transporting sick or injured persons except under the charge of a licensed first-aid, an intern in an approved hospital, or a licensed physician. The bill proposes to authorize the governor to appoint a board of first aid examiners, who are to be authorized to examine and recommend for licensure by the state commissioner of safety of first aiders. Applicants for such a license must be 20 years or more of age and have completed a practical course in first aid of a minimum of twenty-five hours' class work or a semester's work in practical first aid in the junior or senior year of high school or a semester's work in practical first aid in a college or university. H. 560, to supplement the medical practice act, proposes to require licentiates to renew their licenses annually with the board on or before June 10 and at that time to pay annual renewal fees of \$3.

Pennsylvania

Bills Introduced.—S. 644 proposes that all hospitals having one hundred beds or more and receiving any appropriation from the state shall at all times have in attendance at least one licensed physician or at least one student intern. A student intern may remain in attendance only during the period for which he or she is exempt from licensure to practice medicine and surgery. The bill proposes to define "student intern" as any one pursuing a course in an approved hospital as required by the medical practice act of an applicant for licensure to practice medicine. H. 911 proposes that in every trial or hearing where testimony is taken in any civil proceeding the hospital records referring solely to injuries sustained by the patient and the treatment thereof made as a part of the ordinary hospital routine or in the course of the ordinary business of the hospital shall be admissible in evidence on identification by the custodian of such records and it shall not be necessary that such records be proved by the physician or intern who made them. H. 1270, to amend the law requiring the licensing of private nursing homes and private hospitals by the department of welfare as a condition precedent to their operation, proposes, in effect, that such requirement shall apply only to private nursing homes and private hospitals operating for profit. H. 1339 proposes to enact a separate naturopathic practice act and to create an independent board of naturopathic examiners to examine and license applicants for licenses to practice naturopathy. The bill proposes to define naturopathy as "that system of the healing art which uses and prescribes the following practices and usages, diagnosis and the practice of the combined physiological, mechanical and material sciences of healing as taught in reputable schools, institutes and colleges of naturopathy which shall include physiotherapy, hydrotherapy, mechanotherapy, psychotherapy, phytotherapy and electrotherapy, corrective and orthopedic gymnastics, external application, manipulation and nutritional control."

Rhode Island

Bill Introduced.—H. 1031 proposes to regulate the manufacture, sale, distribution and advertising of foods, drugs, cosmetics and therapeutic devices.

Wisconsin

Bills Introduced.—A. 821, to amend the law requiring the several counties, except those having a population in excess of 250,000, to provide, without prior authorization from county officials, hospitalization for relief clients in emergency cases, proposes to make such counties liable also for the care rendered by a physician and surgeon to a relief client in such cases when in the reasonable opinion of a physician called to attend such person immediate care is required and a delay to obtain authorization would likely be injurious to the patient. There is to be no liability, however, for a physician's care under such circumstances unless within twenty-four hours after the admission of the patient to a hospital written notices by the attending physician and of the hospital are mailed to the appropriate county officials. A. 827 proposes to require every licensed physician engaged in the prenatal care of a pregnant woman, or attending such a woman for the first time at the time of delivery, to take, or cause to be taken, a sample of her blood and to submit the sample to a laboratory, approved by the state board of health, for a standard blood test for syphilis.

OFFICIAL NOTES

RADIO BROADCASTS

"Doctors At Work" is the title of the sixth annual series of dramatized radio programs that are being presented by the American Medical Association and the National Broadcasting Company.

Tickets are available for each broadcast. Address the Bureau of Health Education, American Medical Association, 535 North Dearborn Street, Chicago. Tickets are free, but a stamped, self-addressed envelop should accompany requests.

The program for April 30 was canceled in order to yield the time to the President of the United States. In consequence the program originally scheduled to depict the "doctor in arts and letters" will be combined with that on the "doctor as a citizen," and all programs except the closing program will be postponed one week. The new schedule is as follows:

- May 14. So Mothers May Live.
- May 21. Physician to the Community.
- May 28. Doctors' Hobbies and The Doctor as a Citizen.
- June 4. A. M. A. Convention.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION AND PUBLIC HEALTH.)

CALIFORNIA

Personal.—Dr. Alson R. Kilgore, San Francisco, secretary-treasurer of California Physicians' Service since its inception, has resigned as secretary but will continue as treasurer. Dr. Albert E. Larsen, San Francisco, medical director, will also serve as secretary.—Dr. Everett Morris, superintendent of Wish-ia-h Sanatorium, Auber 7, resigned recently. He had been medical director since the opening of the sanatorium on May 16, 1929.

Cardiac Program in San Francisco Area.—Three counties have been selected near the San Francisco area as a field for demonstration in a cardiac program which is part of the crippled children's services of the state department of public health. Funds have been supplied by the U. S. Children's Bureau. The program seeks to reduce the losses resulting from heart disease by providing:

1. Diagnostic services for all children referred including home visits for diagnosis of patients acutely ill. Children already under medical care are cleared with their physicians before admittance to the clinic.
2. Medical, hospital and convalescent care for patients whose parents are unable to pay. Children suffering from congenital and functional heart disease at present are not eligible for care.
3. Medical, public health nursing and social work service in following all patients accepted for care under the program.
4. Epidemiologic services in the case of rheumatic fever.
5. Continuity of educational opportunities for patients through the cooperation of state and local education departments.

The program is in charge of a pediatrician who conducts screening clinics in the counties to examine all children referred. Children with a rheumatic history are referred for complete diagnostic study to the Children's Hospital in Oakland, where the medical services are centered for the present and where hospitalization is provided for active cases of rheumatic fever. Concurrently a survey of heart disease in children is being conducted by the state department of public health at the request of the California Heart Association through social security funds.

CONNECTICUT

Physicians Wanted.—The personnel department of Connecticut announces that open competitive examinations will be held to fill the positions of assistant superintendent (psychiatric), physician and psychiatrist, senior physician (psychiatric), assistant physician (psychiatric), director of clinical laboratories, senior physician, assistant physician and local health consultant. Applications must be filed on or before May 15 or bear a postmark of that date. The Connecticut residence requirement is waived for these positions, but candidates must be citizens of the United States. All foreign born candidates will be required to submit evidence of citizenship; naturalization papers should be submitted with the application. Additional information may be obtained from the Personnel Department, State Capitol, Hartford.

DELAWARE

Society News.—Dr. Joseph S. Wall, Washington, D. C., addressed the New Castle County Medical Society in Wilmington, March 18, on "Pneumonias of Childhood." Dr. Charles F. Geschickter, Baltimore, discussed "Primary Bone Tumors" before the society April 15 and Dr. John F. Hynes, Wilmington, "Metastatic Bone Carcinoma—Diagnosis and Treatment."

IDAHO

Hospital News.—A new wing at St. Joseph's Hospital, Lewiston, was recently opened, increasing the hospital's capacity by thirty beds.—Mrs. William E. Borah, widow of the late senator, has offered a 15 acre tract of land near Boise for construction of a state tuberculosis hospital. The offer was made to the Idaho Anti-Tuberculosis Association through Mr. C. C. Anderson, a merchant in Boise.

Occupational Licensing Board.—A board composed of six physicians to examine applicants for license in certain occupations has been appointed by Governor Clark. The physicians who will conduct medical examinations for persons applying for licenses in any of seventeen occupations for which

the law requires licenses are Drs. Albert B. Pappenhagen, Orofino; Joseph E. Baldeck, Lewiston; Harold W. Stone, Boise; William B. Handford, Caldwell; Casper W. Pond, Pocatello, and George C. Halley, Twin Falls.

ILLINOIS

Meeting of Pathologists.—The Illinois Society of Pathologists will meet at the Palmer House, Chicago, May 20. Dr. Raphael Isaacs will open the session with a lecture entitled "Changes in the Blood Cells of Diagnostic and Prognostic Value." Dr. Samuel A. Levinson will conduct a clinical pathologic conference, and Drs. M. Herbert Barker, Robert Bruce Malcolm and James P. Simonds will participate in a symposium on the role of pathology in medicine. All the speakers are of Chicago.

Postgraduate Conferences.—The First Councilor District Medical Society conducted a postgraduate conference in Freeport, April 23. The following participated:

- Dr. Harry Leichenger, Chicago, Scarlet Fever.
- Dr. Harry A. Oberhelman, Chicago, Physical Problems in Intestinal Infections.
- Dr. Eric Oldberg, Chicago, Head Injuries.
- Dr. Geza de Takats, Chicago, Management of Peripheral Vascular Disease.
- Dr. Charles E. Galloway, Evanston, Management of Abortion.
- Dr. Nathaniel G. Alcock, Iowa City, Value of Urologic Findings in Diagnosis of Abdominal Tumors.
- Dr. Chauncey C. Maher, Chicago, Etiologic Diagnosis of Heart Disease.

The Fourth Councilor District Medical Society sponsored a similar conference in Galesburg on April 24 with the following speakers, all of Chicago:

- Dr. Robert S. Berghoff, Heart Disease.
- Dr. Carlo S. Scuder, Fractures from a General Practitioner's Viewpoint.
- Dr. Lee C. Gatewood, Gastrointestinal Diseases.
- Dr. Frederick H. Falls, Ectopic Pregnancy and the New Test for Pregnancy.

Public Health Meeting.—The first annual public health conference of the Illinois Public Health Association in cooperation with the Cook County public health agencies and the public health and hygiene section of the Illinois State Medical Society will be held at the Hotel La Salle, Chicago, May 19-20. There will be round table discussions on the typhoid epidemic at Manteno State Hospital; public health problems in military areas; nurses in national defense; public health dentistry; community planning in public health and tuberculosis as a national health problem. One session will be devoted to a summary of the possible relationship of poliomyelitis to sanitation. At the banquet with Dr. Nathan S. Davis III, Chicago, presiding, speakers will be Dr. Reginald Atwater, New York, executive secretary, American Public Health Association, on "The New Day in Public Health," and Dr. Henry A. Holle, Chicago, district medical consultant, U. S. Public Health Service, "National Defense and the Public Health." A luncheon session will be addressed by Drs. Clifford J. Barborka, Chicago, and J. Howard Beard, Urbana, on "Nutrition and the Public Health" and "A Community Plans for Health," respectively.

Chicago

The Luckhardt Lecture.—Dr. Howard T. Karsner, professor of pathology, Western Reserve University School of Medicine, Cleveland, will deliver the eighth annual Arno B. Luckhardt Lecture at the University of Chicago on May 15. His subject will be "Ovarian Tumors with Endocrine Dysfunction." The lecture is given under the auspices of Delta chapter of Phi Beta Pi.

Nutrition in Defense of Democracy.—The Chicago branch of the American Association of Scientific Workers conducted a symposium on "Nutrition in Defense of Democracy," April 15, with Dr. Anton J. Carlson presiding. Speakers included Hazel K. Stiebeling, Ph.D., bureau of home economics, U. S. Department of Agriculture, Washington, D. C., on "Nutrition in the United States Today"; Paul E. Howe, Ph.D., colonel, sanitary corps, U. S. Army, Washington, "Nutrition in the Armed Forces," and Dr. Russell M. Wilder, Rochester, Minn., chairman of the committee on nutrition and foods of the National Research Council, "Nutrition in the United States—A Plan for the Future."

KANSAS

Society News.—The Shawnee County Medical Society was addressed in Topeka, April 7, by Drs. Lewis L. Robbins on "Anorexia Nervosa"; Robert P. Knight, "Military Psychiatry," and Carl G. D. Tillman, "Recently Developed Diagnostic and Therapeutic Technics in Neuropsychiatry."—The speakers before the Golden Belt Medical Society in Junction City, April

3, were Drs. Laurence S. Nelson, Salina, on "Commoner Injuries of the Hand"; Robert Lee Hoffmann, Kansas City, Mo., "Diseases of the Female Urethra"; Fred J. McEwen, Wichita, "Cardiac Emergencies," and Earl L. Mills, Wichita, "Functional Heart Disease."—Dr. Hyman I. Spector, St. Louis, addressed the Kansas Tuberculosis Association, April 14, in Topeka on "Early Discovery of Tuberculosis, Particularly with the Use of the X-Ray."

MASSACHUSETTS

Doctors' Symphony Orchestra.—The Boston Doctors' Symphony Orchestra will give its second annual concert, May 11, in Jordan Hall. Alexander Thiede will conduct, and Dr. Werner Mueller will appear as soloist. Proceeds of the concert will be used to establish a fund for a free bed in each of the following hospitals: Beth Israel Hospital, Children's Hospital, Massachusetts Eye and Ear Infirmary and Boston Dispensary.

State Medical Meeting in Boston.—The one hundred and sixtieth annual session of the Massachusetts Medical Society will be held at the Copley-Plaza, Boston, May 21-22, under the presidency of Dr. Walter G. Phippen, Salem. Section meetings will be divided between the University Club and the Hotel Lenox. Out of state speakers will include:

- Dr. William H. Sebrell Jr., Washington, D. C., The Clinical Value of Vitamins.
- Dr. John Scudder, New York, Fluid Administration in Surgery in the Light of Recent Advances in Water and Electrolytic Balance.
- Dr. Irving S. Wright, New York, Problems in the Management of Peripheral Vascular Disease.
- Dr. Richard S. Weiss, St. Louis, Treatment of Common Skin Diseases.
- Dr. Eugene P. Pendergrass, Philadelphia, The Value of the Roentgen Examination in the Diagnosis of Intestinal Obstruction.
- Dr. William Osler Abbott, Philadelphia, Indications for the Use of the Miller-Abbott Tube.
- Dr. Allan T. Kenyon, Chicago, Problems in the Recognition and Treatment of Testicular Insufficiency.

The section on pediatrics will conduct a symposium, Wednesday, on the conditioned reflex of Pavlov. Thursday morning a symposium on hormones will be held. Thursday afternoon will be given over to a military symposium with the following speakers:

- Dr. Wesley Bourne, Westmount, Que., Canada, Procedure in Anesthesia for War Purposes.
- Dr. Philip D. Wilson, New York, Treatment of Compound Fractures Resulting from Enemy Projectiles.
- Ross A. McFarland, Ph.D., Boston, Problem of Fatigue in Aviators.
- Dr. Gilbert Horrax, Boston, Treatment of Gunshot Wounds of the Brain.
- Dr. Walter B. Cannon, Boston, A Report of Newer Work on the Shock Problem.
- Dr. Stuart Mudd, Philadelphia, Blood and Blood Substitutes in the Treatment of Hemorrhage, Secondary Shock and Burns.

Dr. Edward William Alton Ochsner, New Orleans, will deliver the Shattuck Lecture at the annual dinner, Wednesday evening, on "Thrombosis and Thrombophlebitis," and the annual discourse will be presented, Thursday morning, by Dr. Albert Warren Stearns, Boston, on "The Role of the Physician in a Competitive Society."

MINNESOTA

State Medical Meeting in St. Paul.—The eighty-eighth annual session of the Minnesota State Medical Association will be held at the St. Paul Auditorium, St. Paul, May 26-28, with headquarters at the Hotel St. Paul, with the Ramsey County Medical Society as host. Out of state speakers will include:

- Dr. Walter M. Simpson, Dayton, Ohio, New Development in the Diagnosis and Treatment of Brucellosis.
- Dr. Edward D. Churchill, Boston, War Injuries of the Chest.
- Dr. Henry C. Sweany, Chicago, Pathologic Interpretations of Radiological Shadows in Pulmonary Tuberculosis.
- Dr. Archibald D. McCannell, Minot, N. D., Eye Injuries.
- Dr. Thomas M. Joyce, Portland, Ore., Twenty-Five Consecutive Compound Fractures.
- Dr. Sumner L. S. Koch, Chicago, Primary Treatment of Wounds.
- Dr. Henry H. Kessler, Newark, N. J., Rating of Disabilities.
- Dr. Albert D. Kaiser, Rochester, N. Y., Role of Tonsils and Adenoids in Respiratory Infections.

The Russell D. Carman Memorial Lecture, sponsored by the Minnesota Radiological Society, will be delivered Tuesday afternoon by Dr. LeRoy Sante, professor and head of the department of radiology, St. Louis University School of Medicine, on "Roentgen Observations of Chest Injuries." The annual banquet will be addressed in the evening by Dr. Berton J. Branton, Willmar, president of the state medical association, and Col. John R. Hall, Washington, D. C., director of the hospital division, surgeon general's staff, U. S. Army.

The medal of the Southern Minnesota Medical Association will also be awarded at this time. Wednesday afternoon will be devoted to a symposium on medical preparedness for national defense with the following speakers:

- Dr. Frederick L. Smith, Rochester, Preparedness in Minnesota: A Report.
- Colonel Hall, The Doctor in the New Army.
- Dr. Russell M. Wilder, Rochester, Nutrition and Defense.
- Dr. Richard B. Hullsiek, St. Paul, Physical Defects of Selectees.
- Dr. Harold S. Diehl, Minneapolis, Medical Officers of the Future.

A special all day program on the surgery of trauma will be offered Tuesday for the state association and the Great Northern Railway Surgeons' Association, which will also be in annual session at this time. The Minnesota Society for the Prevention of Blindness will sponsor a dinner meeting Monday May 26 at the Hotel St. Paul, and Dr. Gaylord W. Anderson, Minneapolis, will discuss "Conservation of Vision." Societies sponsoring guest speakers at the state society meeting this year include the St. Paul Clinical Club, Dr. Churchill; the Trudeau Society, Dr. Sweany; the Northern Minnesota Medical Association, Dr. Kessler, and the Northwestern Pediatric Society, Dr. Kaiser. John M. Pratt, executive administrator, National Physicians' Committee for the Extension of Medical Service, Chicago, will address a meeting of this committee on Monday May 26. The fortieth annual reunion of the class of 1901 of the University of Minnesota Medical School will be held Monday at a dinner. There will be other reunions and entertainment, including the annual golf tournament at the White Bear Yacht Club on Sunday. The woman's auxiliary to the state medical society will meet in annual session May 26-28, and the Minnesota branch of the American Medical Women's Association will hold a luncheon meeting May 26.

MISSISSIPPI

Health Units.—Dr. George E. Gibbons, Macon, is now health officer of the Noxubee County health unit and Dr. George B. Neukom, Batesville, has been placed in charge of the health department in Panola County. New health units have been created for Benton-Tippah counties with headquarters in Ripley; Prentiss County with headquarters in Booneville, and a Tri-County District composed of Covington, Jefferson Davis and Lawrence counties with headquarters in Prentiss. Dr. John C. Powell, Coldwater, has been named health officer of Prentiss County. Dr. Aubrey A. Aden, Yazoo City, has been appointed health officer of the Benton-Tippah unit. Dr. Isee L. Connell, Birmingham, has been placed in charge of the Clarke County health department.

Grant for Medical Library.—The University of Mississippi Medical School, University, has received a three year grant totaling \$7,500 for the Rowland Medical Library. The gift is part of the University Library Fund created by grants from the General Education Board and matched by the university. The first year's grant will be used to complete the files of the scientific periodicals now carried by the library. In most cases this will be carried back to 1920, but in special cases the files will be completed back to volume one of the respective periodicals. Additional periodicals, monographs and special textbooks will be purchased. The routine program of the library will be pursued as usual with funds from the regular budget and "The Friend of the Library," an organization sponsored by Dr. Peter W. Rowland, Oxford, field director of the library. The library contains seven thousand volumes, of which one hundred have been added since the first of the year. In 1938 the university launched a five year program to enlarge the library.

NEBRASKA

Sentenced for Forgery and Illegal Practice.—According to the Grand Island *Independent*, Bruce L. Van Wyck, who posed as a physician at Wood River in January, was sentenced to three years in the state penitentiary on each of two counts of forgery and fined \$100 on a charge of practicing medicine without a license after he pleaded guilty before District Judge E. G. Kroger in Grand Island, February 10. Van Wyck is reported since 1930 to have served two terms in federal prisons at Lewisburg, Pa., and Stillwater, Minn., for impersonating a federal officer and for grand larceny by check. He was released from Stillwater on Dec. 21, 1940 and in less than a month he appeared in Wood River posing as "Dr. H. B. Remore," it was said. Later he was located in Cheyenne, Wyo., where he said he was an operator of night clubs. He was arrested there, January 26, on charges of forgery and later released to the Nebraska authorities for prosecution.

NEW JERSEY

Chemist Appointed.—Oskar Wintersteiner, Ph.D., assistant professor of biochemistry at Columbia University College of Physicians and Surgeons, New York, since 1929, has been appointed head of the division of organic chemistry at the Squibb Institute for Medical Research, New Brunswick, effective July 1. Dr. Wintersteiner succeeds the late Erhard Fernholz, whose body was recently found in Lake Carnegie near his home in Princeton.

Society News.—Dr. Emil Novak, Baltimore, addressed the Passaic County Medical Society, April 17, at Hope Dell on "Cancer as It Concerns the Gynecologist."—Dr. Hugo Roessler, Philadelphia, addressed the Hudson County Medical Society, Jersey City, April 1, on "Aspects of Circulatory Disturbances."—Dr. Catharine Macfarlane, Philadelphia, discussed "Progress in Cancer Prevention Research" at a meeting of the Cumberland County Medical Society, Bridgeton, April 8.—Dr. Francis Carter Wood, New York, addressed the Essex County Medical Society, Newark, April 10, on "Improvements in Diagnosis and Treatment of Lymph Node Disease."—Dr. Walter I. Lillie, Philadelphia, addressed the Medical Society of Atlantic County, Atlantic City, April 18, on "Fundal Changes Associated with Arterial Hypertension."

NEW YORK

Research in Urology.—The department of urology of the University of Rochester School of Medicine is to receive about \$1,200,000 from the estate of the late Dr. Henry C. Buswell, at one time associate professor of medicine at the University of Buffalo. The estate is set up in trust funds for Dr. Buswell's widow and two sisters and on their deaths will revert to the university. Dr. Buswell died in Strong Memorial Hospital, Rochester, March 4, 1940.

Society News.—Drs. John C. M. Brust and John B. Alsever, Syracuse, addressed the Steuben County Medical Society, Corning, April 10, on "Diagnosis and Management of Common Anorectal Diseases" and "Organization of a Plasma and Blood Transfusion Service in the Syracuse University Medical Center" respectively.—Dr. Henry H. Ritter, New York, addressed the Fulton County Medical Society, Gloversville, April 4, on "The Fracture Problem" and the Oswego County Medical Society, Fulton, April 3, on "Treatment of Common Fractures."—Col. Charles M. Watson, M. C., U. S. Army, surgeon, Second Corps Area, Governors Island, addressed the Medical Society of the County of Westchester, White Plains, April 15, on "Expansion of Medical Department Activities in the Army."—Dr. Cecil K. Drinker, Boston, gave an Eastman Memorial Lecture at the University of Rochester School of Medicine, April 3, on "Some Practical Considerations of the Lymphatic System."—Clarence Cook Little, Sc.D., Bar Harbor, Maine, managing director of the American Society for the Control of Cancer, gave a public lecture on "The Optimistic Side of Cancer" in Rochester, March 30, under the auspices of the Rochester Academy of Medicine, the Medical Society of the County of Monroe and the University of Rochester School of Medicine.

New York City

The Brickner Lecture.—Dr. Franklin C. McLean, professor of pathologic physiology, University of Chicago, The School of Medicine, delivered the tenth Walter M. Brickner Lecture at the Hospital for Joint Diseases, May 2, on "Calcification and Ossification: Some Aspects of the Physiology of Bone."

Harvey Lecture.—The eighth Harvey Lecture of the current series sponsored by the Harvey Society at the New York Academy of Medicine will be delivered, May 15, by Rebecca C. Lancefield, Ph.D., associate at the Rockefeller Institute for Medical Research. Her subject will be "Specific Relationship of Cell Composition to Biological Activity of Hemolytic Streptococci."

Film on Wassermann and Kline Tests.—The New York City Department of Health has prepared a 16 mm. film on the Wassermann and Kline tests on specimens of blood and spinal fluid. The film, produced by the bureau of social hygiene, is called "The Laboratory and Venereal Disease Control." It is available in black and white and in color and offered without charge by the bureau for showings to medical schools and societies, to hospital staffs, to nursing groups and to laboratory and public health workers in New York.

Symposium on Syphilis.—The annual symposium on syphilis at Columbia University College of Physicians and Surgeons was held March 28-29 and April 4-5. The first week-end meetings were devoted to lectures by Drs. Harry C. Solomon, Boston; Norman R. Ingraham and John A. Kolmer, Philadelphia; Edwin P. Maynard Jr., Ross Golden, Paul C. Swenson and A. Benson Cannon. The second period was spent on demonstrations in the Vanderbilt Clinic. Fourth year students of Cornell University Medical College and New York University College of Medicine were invited to participate.

Publication of Dr. Schilder's Books.—The Society for Psychotherapy and Psychopathology of New York has appointed a committee headed by Dr. Bernard Glueck to arrange for the publication of one or more of the books of the late Dr. Paul F. Schilder. Contributions to make the publication possible may be sent to the secretary of the committee, Dr. Frank J. Curran, 404 East Fifty-Fifth Street. Dr. Schilder, who died on Dec. 8, 1940 as a result of injuries received when struck by an automobile, was research professor of psychiatry at New York University College of Medicine and clinical director of the psychiatric division of Bellevue Hospital. He was the author of "Introduction to a Psychoanalytic Psychiatry" and several books published in Berlin and Vienna.

NORTH CAROLINA

Courses in Medicine.—The University of North Carolina School of Medicine, Chapel Hill, and its extension division have recently sponsored graduate courses in medicine in Wilson and Raleigh. The speakers on the Wilson series were:

- Dr. Eldridge L. Eliason, Philadelphia, The Catastrophes of Peptic Ulcers, March 5.
- Dr. Alexis F. Hartmann, St. Louis, Gastrointestinal Diseases in Children, March 19.
- Dr. Joseph Earle Moore, Baltimore, Interpretation of Serologic Tests for Syphilis, March 26.
- Dr. William B. Porter, Richmond, Va., The Heart in Pregnancy, April 2.
- Drs. Baldwin H. E. W. Lucke and Francis C. Wood, Philadelphia, clinico-pathologic conference, April 9.
- Dr. Edward A. Schumann, Philadelphia, Management of Pregnancy, April 16.

In the series at Raleigh the speakers were:

- Dr. Harrison F. Flippin, Philadelphia, Uses and Abuses of Sulfanilamide, Sulfapyridine and Sulfathiazole, March 14.
- Dr. Hartmann, Gastrointestinal Diseases in Children, March 20.
- Dr. Louis A. Buie, Rochester, Minn., Diagnosis and Common Treatment of Diseases of the Colon and Rectum, March 28.
- Dr. William Wayne Babcock, Philadelphia, Diagnosis of Acute Abdominal Conditions, April 4.
- Dr. Russell L. Haden, Cleveland, Diagnosis and Treatment of Anemias, April 11.
- Dr. Schumann, Management of Pregnancy, April 17.
- Dr. Percy S. Pelouze, Philadelphia, Office Urology, April 25.

OKLAHOMA

State Medical Meeting.—The forty-ninth annual session of the Oklahoma State Medical Association will be held in Oklahoma City, May 19-21, with headquarters at the Skirvin Tower Hotel. The following guest speakers will address the general sessions:

- Dr. Ralph Pemberton, Philadelphia, Present Status and Treatment of Arthritis.
- Dr. Axel N. Arneson, St. Louis, Carcinoma of the Cervix Uteri.
- Dr. Lauren H. Smith, Philadelphia, Psychiatric Aspects of the National Emergency.
- Dr. Earl Garside, Chicago, Conservative Treatment of Appendiceal Peritonitis.
- Dr. Meyer Wiener, St. Louis, Significance of Accurate Detailed Ophthalmological Information and Its Interpretation as a Factor in Neurological Diagnosis.
- Dr. James R. Reinberger, Memphis, Tenn., Diagnosis and Treatment of Puerperal Infections with Special Reference to Sulfanilamide.

The guests will also address section meetings. The Oklahoma County Medical Association will entertain members of the state association at supper Monday evening May 19, after which there will be addresses by Col. William Lee Hart, surgeon of the Eighth Corps Area, U. S. Army, Fort Sam Houston, Texas, on "Organized Medicine in the National Defense Program" and Col. Raymond W. Bliss, commanding officer, station hospital, Fort Sill, on "The Present World War from the Medical Standpoint." There will also be a meeting of the selective service examining physicians, with Lieut. Col. Richard H. Eanes, of the Selective Service National Headquarters, Washington, D. C., and Gov. Leon Phillips as the speakers. The Oklahoma Pediatric Association will meet Monday May 19 with Dr. Herbert J. Rinkel, Kansas City, Mo., as guest speaker on allergy. At a public health meeting Tuesday, May 20, Dr. Robert B. Greenblatt, Augusta, Ga., will discuss "Public Health Aspects of the Five Venereal Diseases" and I. Forrest Huddleson, Ph.D., East Lansing, Mich., "Diagnosis

and Control of Brucellosis." The woman's auxiliary to the state association will hold its annual meeting May 19-20. Dr. Henry H. Turner, Oklahoma City, is president of the association.

PENNSYLVANIA

Tuberculosis Meeting.—The forty-ninth annual meeting of the Pennsylvania Tuberculosis Society was held at Erie, April 16-17. The speakers included Dr. Edgar S. Everhart, Harrisburg, medical adviser, state selective service board, on "Public Health in Relation to National Defense Preparations"; Dr. Robert E. Plunkett, New York State Department of Health, Albany, "The Chest Clinic as a Diagnostic and Consultation Center for the General Practitioner of Medicine," and Theodore Hatch, M.S., associate professor of industrial hygiene, department of public health and preventive medicine, University of Pennsylvania School of Medicine, Philadelphia, "Tuberculosis Control in the Industrial Health Program." At a medical session at Hamot Hospital Drs. Louis H. Clerf, Philadelphia, and Walter L. Rathbun, Cassadaga, N. Y., spoke on "Use of Bronchoscopy in Tuberculosis and Other Bronchopulmonary Diseases" and "Tuberculosis of the Lungs in the Younger Age Groups" respectively.

Philadelphia

Physical Therapy Meeting.—The Pennsylvania Physical Therapy Society and the Philadelphia Orthopedic Club held a combined meeting at Jefferson Hospital, April 10, with the following speakers, among others: Drs. Abraham M. Rechtman, on "Early Treatment of Infantile Paralysis"; Robert P. Sturr, "Physical Therapy in Relation to Peripheral Vascular Disease of the Extremities," and Benjamin Ulanski, "Treatment of Sciatica."

Collection of Apothecaries' Wares.—A collection of apothecaries' jars and mortars assembled by the late Mr. David Costello, a New York pharmacist, has been bought by Mr. Josiah K. Lilly, Indianapolis, chairman of the board of directors of Eli Lilly and Company, and presented to the Philadelphia College of Pharmacy and Science. Both Mr. Costello and Mr. Lilly are graduates of the college. The collection contains more than one hundred and fifty rare pieces, some of which are several hundred years old, including jars of faenza and majolica, decorated with coats-of-arms and heraldic insignia, many of blown glass, Spanish, Italian, Delft and French alberellos and an extensive collection of mortars and pestles in bronze, marble, wood and ivory.

TENNESSEE

State Medical Election.—Dr. James B. Stanford, Memphis, was named president-elect of the Tennessee State Medical Association at the annual meeting in Nashville, April 8-10, and Dr. Hiram A. Laws Jr., Chattanooga, became president. Vice presidents elected were Drs. Cassius W. Friberg, Johnson City; John S. Freeman, Springfield, and Glenn D. Batten, Jackson. Dr. Harrison H. Shoulders, Nashville, was reelected secretary. The 1942 meeting will be held in Memphis.

New Health Officers.—Dr. Roy J. Settle, formerly of Inman, S. C., has been appointed director of the Monroe County health unit with headquarters at Madisonville.—Dr. Harry E. Wright, formerly of Dallas, Texas, has been appointed health officer of Marshall County.—Dr. Clifford B. Cole, Dyersburg, has been appointed health officer of Fayette County to succeed Dr. Henry N. Moore, Somerville, who resigned to enter private practice.—Dr. Landon H. Gurnee, Knoxville, has been named director of the Unicoi County health unit to succeed Dr. Walter C. Humbert, Erwin, who is in military service.

WASHINGTON

Society News.—Drs. Conrad Jacobson and Roger Anderson, Seattle, addressed the King County Medical Society, Seattle, April 7, on "Factors in Surgical Mortality (Critical Hospital Survey)" and "Advances in the Treatment of War Injuries" respectively.—Dr. Edward R. Anderson, Tacoma, addressed the Pierce County Medical Society, Tacoma, April 22, on "Oral and Parenteral Use of the Synthetic Vitamin K."

Personal.—Dr. Albert I. Bouffleur, Seattle, has retired as chief surgeon of the Chicago, Milwaukee, St. Paul & Pacific Railroad after thirty years in that position and fifty-one years with the road. His successor will be Dr. Harry Eugene Allen, Seattle, who has been Dr. Bouffleur's assistant for many years.—Dr. Cecil R. Fargher, Vancouver, has been named health officer of Vancouver and Clark County.

GENERAL

Branch Meeting.—The Western branch of the American Public Health Association will hold its annual meeting at the Hotel San Diego, San Diego, Calif., May 26-29. Among the speakers will be Drs. Jacob C. Geiger, San Francisco, on "England's Wartime Experience in Public Health and What We Can Learn from It" and Walter T. Harrison, San Francisco, "The Public Health Program in Areas Adjacent to Military Centers."

Awards for Investigation of Epilepsy.—The Laymen's League Against Epilepsy announces that two awards of \$100 each for the best original unpublished observations or investigations bearing on the subject of epilepsy have been granted. Dr. Walter L. Bruetsch, Central State Hospital, Indianapolis, received one offered for work done in a state epileptic colony or mental hospital for his observations on "Rheumatic Epilepsy." The second award, offered for work done elsewhere than in state institutions, went to Dr. Frederick A. Fender, Stanford University Hospital, San Francisco, for his work on "Convulsions Following Remote Electrical Stimulation of Subcortical Cerebral Levels."

Certification of the General Practitioner.—The National Board of Medical Examiners has appointed a committee to study the question of certifying the general practitioner, with Dr. Waller S. Leathers, Nashville, Tenn., as chairman. Dr. Louis B. Wilson, director of the Mayo Foundation, Rochester, Minn., has been asked to serve as consultant to the committee. The committee will confer with various medical authorities and organizations as to the best method of providing recognition for the progressive, up-to-date, efficient and well trained general practitioner, the announcement said. Such a certification would bear a relation to general practice similar to that of the certificates now granted by the examining boards in the specialties, it was said.

Grants for Cancer Research.—The National Advisory Cancer Council at its regular meeting at the National Cancer Institute, Bethesda, Md., March 31, approved the following grants for research:

Meharry Medical College, Nashville, Tenn., \$1,100 for maintenance of clinical records for statistical analysis.
Jackson Memorial Laboratory, Bar Harbor, Maine, \$15,000 for research on genetics of cancer.
Barnard Free Skin and Cancer Hospital, St. Louis, \$5,000 for research on changes in cancer cells.
American Registry of Pathology, Army Medical Museum, Washington, D. C., \$1,000 for collection and registry of pathologic specimens.
Cornell University Medical College, New York, \$2,700 for study of "butter yellow" liver tumors of rats.

The council approved a plan to organize programs of research and of education on cancer of the stomach.

Meeting of Otologists.—The seventy-fourth annual meeting of the American Otological Society, Inc., will be held at the Marlborough-Blenheim Hotel, Atlantic City, N. J., May 26-27, under the presidency of Dr. George M. Coates, Philadelphia. A military symposium is one feature of the program with the following speakers:

Dr. Harris P. Mosher, Boston, Lessons Learned from the Last War.
Dr. Edmund P. Fowler, New York, Hearing Standards for Acceptance, Disability Rating and Discharge.
Dr. William E. Grove, Milwaukee, Management of Injuries to the Middle and Internal Ear, Including Fractures of the Petrous Bone.
Dr. Douglas Macfarlan, Philadelphia, Prevention and Treatment of Acoustic Trauma in War and Civil Life.
Dr. Eugene R. Lewis, Los Angeles, Malingering and Neuro-Otologic Considerations in Army Service.
Comdr. John R. Poppen, medical corps, U. S. Navy, Washington, D. C., Otologic Problems on Naval Vessels.

Meeting of Clinical Pathologists.—The twentieth annual meeting and eighth seminar of the American Society of Clinical Pathologists will be held at the Hotel Cleveland, Cleveland, May 29-June 2, under the presidency of Dr. Armin V. St. George, New York. Among the speakers will be:

Dr. Clara Raven, Youngstown, Ohio, Clinical and Laboratory Diagnosis of Leptospirosis.
Dr. Normand L. Hoerr, Cleveland, Effect of Different Fixing Methods on the Histologic Appearance of Liver and Kidney Cells.
Victor C. Myers, D.Sc., and Alfred H. Free, Ph.D., Cleveland, Clinical Significance of the Enzymatic Activity of Duodenal Contents, with a Practical Method of Recording Values.
Drs. Donald C. Beaver, David J. Sandweiss and Harry C. Saltzstein, Detroit, Effect of Urine Extracts on Healing of Experimental Peptic Ulcers in Dogs.
Drs. Harry Eagle and Joseph Earle Moore, Baltimore, The Confusing Multiplicity of Serologic Tests for Syphilis.
Dr. Harry J. Corper and Maurice L. Cohn, Ph.D., Denver, Effect of Paraffin Hydrocarbons on Tuberculinallergy and Tuberculinimmunity Produced by Tubercle Bacilli.

Dr. Howard T. Karsner, professor of pathology, Western Reserve University School of Medicine, Cleveland, will conduct a seminar, Sunday, on "Tumors of the Endocrine Glands."

Dr. Karsner will lecture on this subject Monday morning, following a clinical pathologic conference conducted by Dr. Harry Goldblatt, professor of experimental pathology at Western Reserve.

Teachers of Sight-Saving Courses.—The National Society for the Prevention of Blindness announces that it is again cooperating with several colleges and universities in offering courses for the preparation of teachers and supervisors of sight-saving courses. An elementary course is to be given at Wayne University, Detroit, under the direction of Miss Margaret Soares, June 23 to August 2. An advanced course will be given at Western Reserve University, Cleveland, by Miss Olive S. Peck, June 23 to August 2, and another at State Teachers College, Buffalo, by Mrs. Winifred Hathaway, New York, associate director of the national society, July 7 to August 15. Details may be obtained from the university or college or from the directors of the courses.

American Laryngological Association.—The sixty-third annual meeting of the American Laryngological Association will be held at the Marlborough-Blenheim Hotel, Atlantic City, N. J., May 28-30, under the presidency of Dr. Gordon Berry, Worcester, Mass. Papers to be presented include:

- Dr. Irwin G. Spiesman, Maywood, Ill., An Experimental and Clinical Study of the Common Cold.
- Dr. John A. Kolmer, Philadelphia, Science of Chemotherapy.
- Dr. Brien T. King, Seattle, Further Report on the Surgical Treatment of Bilateral Abductor Paralysis.
- Dr. Louis H. Clerf, Philadelphia, Paralysis of the Larynx.
- Dr. William D. Gill, San Antonio, Texas, Pathogenic Molds and the Lesions They Produce in the Respiratory Tract.

A symposium on bronchiectasis will be presented by Drs. Harry P. Schenck, Simon S. Leopold, Eugene P. Pendergrass, Harry Johnson and Gabriel Tucker, all of Philadelphia.

Tuberculous Ex-Soldier Missing.—Physicians are asked to be on watch for Joseph E. Taylor, aged 26, who was discharged from the U. S. Army April 11 at Camp Devens, Mass., after it was found that he had tuberculosis. He had been inducted into the service March 18. He was last seen in the railroad station at Ayer, Mass. It was said that he had bilateral tuberculous lesions and a large cavity in the upper lobe of the right lung. Taylor is 5 feet 7 inches tall, weighs 140 pounds, has blue grey eyes, may be wearing glasses. When last seen he was wearing a dark gray overcoat, light gray sport coat with plain gray trousers and a brown hat. Any one who sees this man is asked to communicate with his sister, Mrs. Austin L. Duffy, 80 Oakdale Street, Lakewood, R. I., the state department of health, Providence, R. I., or the Rhode Island state police.

Association of Genito-Urinary Surgeons.—The fifty-third annual meeting of the American Association of Genito-Urinary Surgeons will be held at The Homestead, Hot Springs, Va., May 29-31, under the presidency of Dr. Montague L. Boyd, Atlanta, Ga., who will speak on "Ulcer of the Bladder: An Unusual Ulcer Associated with Streptococcus Faecalis Infection." Included among the speakers will be:

- Dr. Albert J. Scholl, Los Angeles, Gunshot Wounds of the Kidney.
- Drs. William J. Baker and John I. Brewer, Chicago, Endometriosis of the Urinary Bladder.
- Dr. Hugh H. Young, Baltimore, Intravesical Resection of the Bladder Wall and Peritoneal Coat for Certain Bladder Tumors.
- Dr. Hermon C. Bumpus Jr., Pasadena, Calif., Cancer of the Prostate: Difficulties in the Evaluation of Treatment.
- Drs. Roger C. Graves, Boston, and Knowles B. Lawrence, Wrentham, Mass., Bilateral Embryonal Carcinoma of the Testes.
- Drs. Reed M. Nesbit and Robert H. Cummings, Ann Arbor, Mich., Use of Prostigmine in the Management of Postoperative Urinary Retention.

American Gynecological Society.—The sixty-sixth annual meeting of the American Gynecological Society will be held at the Broadmoor Hotel, Colorado Springs, Colo., May 26-28, under the presidency of Dr. Jennings C. Litzenberg, Minneapolis. Among the speakers will be:

- Dr. Leighton C. Conn, Edmonton, Alta., A Critical Review of Blood Loss in 2,000 Obstetrical Cases.
- Dr. Robert D. Mussey, Rochester, Minn., Pelvic Pain.
- Dr. Norman R. Kretschmar, Ann Arbor, Mich., Intrauterine Oxygen Exchange.
- Dr. Norman Harris Williams, Beverly Hills, Calif., Varied Significance of Heartburn of Pregnancy.
- Dr. Henry Close Hesseltine, Chicago, Vitamin Therapy in Vulvar Dermatoses.
- Dr. Charles H. Peckham Jr., Cooperstown, N. Y., Time of Onset and Duration of the Toxemias of Late Pregnancy in Relation to the Development of Permanent Vascular Change.
- Dr. Henry E. Sigerist, Baltimore, Development and Trends in Gynecology.
- Dr. Francis L. McPhail, Great Falls, Mont., The Cause and Possible Late Effect of Anoxia in the Newborn.
- Dr. Carl E. Bachman, Philadelphia, Application of Chemical Methods to Studies of the Excretion of Estrogens During Pregnancy.

CORRECTION

Skin Peeling and Scarification.—Following publication in THE JOURNAL, March 8, of the article by Eller and Wolff on skin peeling, a number of letters were received protesting that the photographs were misleading. Most of these letters asserted that the photographer had utilized light effects which emphasized unduly in the "before" pictures the shadows made by pits, scars and discolorations and which minimized the cosmetic defects in the "after" pictures. Such letters were received from:

- Dr. S. Miles Bouton Jr., Albany, N. Y.
- Dr. Eugene A. Field, Providence, R. I.
- Dr. L. Henry Garland, San Francisco.
- Dr. Hans W. Liepmann, Monroe, N. Y.
- Dr. Ira C. Nichols, Providence, R. I.
- Dr. Carl C. Pfeiffer, Detroit.
- Dr. Joshua Schwartz, New York.
- Dr. William B. Swarts, Greenwich, Conn.
- Dr. L. P. Tischler, Schenectady, N. Y.
- Dr. Stanley R. Truman, Oakland, Calif.
- Dr. H. P. Worstell, Columbus, Ohio.

These letters were sent to the author, Dr. Joseph J. Eller, asking for a statement. The author, in turn, referred the letters to the professional photographer, Mr. Martin Haggett, 220 West Forty-Second Street, New York. Mr. Haggett stated that the biggest offender was the engraver who prepared the halftones. "For he evidently washed out in etching or in too light a negative any detail that should have been retained from the original print. . . . The lesser offender is myself, who did all the photography, except the one used as figure 3." Mr. Haggett then carefully analyzed the lighting effects secured in each of the illustrations.

The explanations and statements of Mr. Haggett were referred to the Wallace-Miller Company, 466 West Superior Street, Chicago, the photo engravers who prepared the halftones. The engraver writes: "I find the halftones have been overetched and I wish I had seen the proofs before they were printed. I have been away and did not see the job until now."

"We have been making halftones for you for many years and this is the first time we have made this mistake. I am sorry it happened and I will assure you it won't happen again."

Government Services

The Army Medical Library

A contract for preliminary sketches and planning, including the selection of a site, has been awarded to Eggers & Higgins, New York, for the Army Medical Library and Museum, Washington, D. C., the estimated cost of which will be \$3,750,000.

Commissions in Public Health Service

The following physicians have been commissioned as assistant surgeons in the regular corps, U. S. Public Health Service, effective February 1, terminating their commissions in the same rank in the reserve:

- Clarence K. Aldrich, New York.
- Robert D. Berkebile, Memphis, Tenn.
- Roy E. Wolfe, Galveston, Texas.
- John G. Crawford, Baltimore.
- Paul W. Lucas, Baltimore.
- Evert A. Swenson, New Orleans.
- Vernon W. Foster, Boston.

Examination for Interns in the Navy

The surgeon general of the navy recently announced that a large number of appointments as acting assistant surgeon for intern training in naval hospitals are being offered. Examinations for these appointments will be held June 23-26, inclusive, at all the larger naval hospitals in the continental limits of the United States. Applications for authorization for these examinations should be forwarded before May 23 to the Bureau of Medicine and Surgery, Navy Department, Washington, D. C. Applicants must be citizens of the United States over the age of 21 but less than 32 at the time of acceptance of the appointment; must be graduates or members of the graduating class of recognized medical schools and must meet the physical and other requirements. Other information may be obtained from the Bureau of Medicine and Surgery.

Foreign Letters

LONDON

(From Our Regular Correspondent)

March 8, 1941.

Health in Factories as Good as Before the War

It has previously been reported in *THE JOURNAL* that the general health of our people has not suffered in consequence of the war. This is confirmed by the latest official returns. It was feared that, as typhoid is water borne, the damage of drains by bombing would increase it. But its incidence, as well as that of the other common infectious diseases, is below normal. Actually there were only 32 cases of typhoid up to February 8 this year, 1 more than for the same period last year, but only a third of those for 1939 and half those for 1938. The government's attention to health in factories has been well rewarded. The provision of canteens in and out of factories, the reduction of the long hours in the first year of the war and the development of medical services have kept the workers in good condition. It was feared that the congregating of people in air raid shelters would spread disease. But disease has

Incidence of Influenza, Scarlet Fever and Diphtheria

	Cases	Deaths
Influenza		
1941	778	
1940	1,827	
1939	1,309	
1938	407	
Scarlet Fever		
1941	3,568	12
1940	2,689	12
1939	4,788	10
1938	7,701	31
Diphtheria		
1941	3,787	244
1940	2,053	129
1939	3,563	156
1938	6,224	236

diminished; it seems that the result is a self-immunizing effect. Moreover, when illness does occur it is attended to much more quickly, in many cases, than if the person had been leading the ordinary home life, because of the medical service organized for the shelters. Nor has evacuation to the country spread disease, as some physicians predicted. The official figures for the period up to February 8 and for the 20,000,000 persons inhabiting London and the other large cities show that 1941 is below the average of the preceding three years.

The Bread Controversy

The rationing of food has brought the question of nutrition to the front, and bread is again a matter of controversy. The tide has set in favor of wholemeal bread. It is being recognized how large is the loss in the removal of the germ and husk from the wheat berry. The government has ordered the addition of vitamin B₁ and calcium to the white loaf. But critics say that this is only a partial restoration. White bread is wanting in the other elements of the B complex, in iron and in other salts. Why allow valuable ingredients to be removed and then go to the trouble and expense of restoring only some of them? The government has therefore also ordered the production of a standard flour of 85 per cent extraction from the wheat berry (instead of the 73 per cent for white flour). Experts have advised that this percentage gives the maximum of digestibility and nutriment. But other experts declare that the 15 per cent removed in making the new flour contains the germ and its vitamins and that the bran removed contains mineral salts and gluten. The government is therefore considering the production of flour of 100 per cent extraction.

This would be a true wholemeal flour—a thing unknown. The view of many dietitians is that extraction of the husk from the wheat berry is desirable because of its indigestibility, but they have not attempted to justify the extraction of the germ. Moreover, the need for "roughage" in our food, as a preventive of constipation, is admitted.

The government proposes that the new bread, of 85 per cent extraction, will be on sale everywhere at the same price as white bread, 16 cents the 4 pound loaf. Special breads containing more fat, which are popular in the North, may be sold at a higher price. The decision to produce the standard loaf was taken because it was found that a substantial proportion of the population wanted it. The existing brown bread on sale differs much in the degree of extraction—a point overlooked in the controversy between white and brown bread, the latter being often assumed to be equivalent to "wholemeal bread."

Canadian Red Cross Supplies

The first annual report of the Canadian Red Cross in England states that several millions of pounds were presented to the Dominion and British forces and bombed civilians during the year. More than 350,000 hand knitted woolen comforts from homes in every part of the dominion were distributed to Canadian troops and airmen in England, to British and Canadian naval men and to merchant marine organizations. These included knitted blankets from the far west, bags for patients' belongings, bed jackets, a million pairs of socks, 42,000 towels, 500,000 handkerchiefs and 500,000 bandages. In addition large quantities of hospital supplies were sent to British, French and Polish organizations. There were also 154 ambulances (one presented by a New York citizen), 10,000 shaving sticks, 10,000 mirrors, 4,000 tooth brushes and 112 radio sets. Food supplies included 80,500 cans of mixed fruits, vegetables, meats and fish, 21,600 cans of corn, 47,000 cans of jam, 14,800 cans of butter, 40,000 cans of sardines, 85,000 pounds of sugar and 26,775 pounds of prunes. A large part of the food was distributed by organizations attending to bombed civilians and the remainder has been stored for future emergency use of military hospitals. All these supplies were sent from Canada to England in 85,000 cases, of which only 1,800 were lost by enemy action.

The Influenza Epidemic

The fear that war might produce some increase of epidemic diseases has not been realized. In the early part of the year we expect an epidemic of influenza, which has now occurred. It is mild, as shown by the age distribution of the deaths, a large proportion of which are of persons over the age of 65 years. This is in striking contrast with the influenza pandemic of 1918, which marked the close of the last great war, when most of the victims were young and no treatment seemed availing against the malignant form of bronchopneumonia which was rife. The figures for the total weekly deaths attributed to influenza in the one hundred and twenty-six large cities were, for the four weeks ended February 8, respectively 99, 120, 176 and 261. The available London figures of hospital admissions suggest that we have already passed the maximum period of the epidemic.

Further Extension of the Medical Register

In a previous letter, the extension of the Medical Register which enables Canadian and United States physicians to register for the duration of the war was reported. A further extension is now announced. It extends this permission to physicians qualified in any part of the British Empire, in the countries of our European allies or in Germany or Italy. Under this order the physician must be selected either for a medical commission in one of the fighting forces or for employment in a hospital, institution or service not involving attention in the patient's own home.

ITALY

(From Our Regular Correspondent)

Feb. 15, 1941.

International Radiomedical Center

The board of directors of the International Radiomedical Center recently presented the annual report. There were ninety-two radiomedical calls from steamers on voyages, seventy-two being for medical diseases, nine for surgical diseases and eleven for accidents. In grave conditions the consulting center directed care of the patients all through the course of the disease until they were completely cured or until they were disembarked and sent to hospitals. The Italian Radiomedical Center had the majority of calls during the year, ninety-two; France had twenty-two, England seventeen and Belgium five.

Tumors of the Lung

At a meeting of the Società di Chirurgia of Naples, Professor Rizzi discussed carcinoma of the lung. In 1 of 3 cases reported, the carcinoma of the upper lobe was composed of flat epithelium with epithelial pearls and marginal sclerosis. In another case the diagnosis was made by means of a biopsy of an inguinal metastasis which showed carcinoma with polygonal epithelium with foamy clear cells. Macroscopically, tumors of the lung may be single or multiple, massive, pleuropulmonary and cirrhotic. The microscopic classification is difficult, as it depends on the various types of cells (cylindricobronchial, cubicobronchial, fat alveolar and mucous glandular) in the lung. Morphologically there are four types of tumors: (1) those with undifferentiated small cells, (2) those with cornified or uncornified flat cells, (3) those with cylindric cells and (4) those with polyform cells. In the cases reported by the speaker, diffusion took place by contiguity: without involvement of the pulmonary lymphatic routes in the first case, limited in the sclerotic cavity of the lung in the second and diffused from an apical node to the involved lung in the third case. Apical sclerosis plays an important part in the development and evolution of pulmonary tumors. It blocks the territorial lymphatic circulation on the one hand and stimulates production of the tumor on the other.

Anthropologic Identifications

Prof. Lido Cipriani, head of the Museo Antropologico of the University of Florence, made observations on the bones of Pico della Mirandola and Angelo Ambrogini, known in literary annals as Angelo Poliziano, which are preserved in the San Marco Church of Florence. [Pico della Mirandola, Italian philosopher and writer and Angelo Poliziano, Italian scholar and poet, both died in 1494.] He observed that the cranium of Pico della Mirandola showed abnormalities which may explain Pico's remarkable intelligence and extraordinary memory. The right half of the coronal suture was abnormal. The sagittal suture presents signs of an early ossification. Examination of the cranium and the skeleton suggested that endocrine dysfunction may have influenced the development of the body to a high degree. The tomb of Poliziano, which is about 2 meters deep, contained bits of a wooden box and some fragile bones. Examination of the bones suggested that Poliziano was short in stature and that the body inclined toward the left as a result of abnormal development of the facets of the cervical vertebrae. The cranium was very large. The face was long and the nose was large. The neck and nose were slightly deformed.

Experiments on Esophageal Dilatation

In a lecture at the surgical clinic of the University of Sassari, Prof. Mario Agrifoglio reported experiments on sympathetic dystonia of some segments of the digestive tract. The author studied the pathogenic mechanism of idiopathic dilatation of the esophagus. There is the opinion that megaesophagus is due to spasm of the cardia; there are other theories. Professor Agrifoglio induced, in dogs, esophageal idiopathic

dilatation by decortication of the cardiac segment of the esophagus without injury to the main pneumogastric trunks. The functional esophageal changes depend on dysfunction of the nerves which supply the esophagus. The functions of the sympathetic nerves which regulate the muscular tonus of the smooth fibers of the tunic of the lower wall of the esophagus are predominantly involved. Those of the vagal nerves are secondarily involved, as observed by the behavior of the peristaltic waves, which slowly cross the esophagus down to the cardia and appear to be shallow.

From these experiments the speaker believes that grave diffuse dilatation of the esophagus originates in a dysfunction of the sympathetic tonicity as the primary factor, and a functional imbalance of the peripheral visceral nervous segments as a secondary factor. Because the intrinsic and extrinsic nerve supply of the large intestine is analogous to that of the esophagus, the speaker repeated these experiments on a segment of the colon with the aim of producing megacolon. However, it could not be reproduced, as even slight decortication of the sympathetic nerves to the colon caused an immediate and persistent diminution of the lumen of the intestinal segment from contracture of the muscular tunic of the colon. These experiments help to explain postoperative intestinal occlusion.

Marriages

WILLIAM LOUIS JANUS, Lieut. (j. g.) M. C., U. S. Navy, Swedesboro, N. J., to Miss Dorothy Taylor Alexander of Kennett Square, Pa., at Waikiki, Hawaii, February 5.

NATHANIEL WHITE KUYKENDALL JR., Memphis, Tenn., to Miss Sara Pauline Williamson of Water Valley, Miss., in Osceola, Ark., January 31.

THOMAS LEONARD WATSON, Charlottesville, Va., to Miss Elizabeth Baumeister of Portsmouth in December 1940.

HERMAN FRANKLIN EASOM, Sanatorium, N. C., to Miss Kathryn Amanda Scroggs of Raleigh in December 1940.

ZACHARY FILLMORE LONG to Miss Virginia Fay Cox, both of Rockingham, N. C., at High Point, February 1.

RALPH CONNER REID, Charlotte, N. C., to Miss Nancy Lanier of New York at Greenwich, Conn., January 1.

FRED BRINNING ROACHE, Owensboro, Ky., to Miss Martha Vivian Whitehouse in December 1940.

LEWIS B. HUNTER, Wallace, Idaho, to Miss Willadene Berberet of Spokane, Wash., February 8.

GEORGE BARKSDALE CRADDOCK to Miss Mary Spencer Jack, both of Lynchburg, Va., February 1.

L. RAGAN LONNERGAN JR. to Miss Dorothy Liles, both of Gadsden, Ala., in December 1940.

TRUMAN WALTER WHITFIELD JR., Jasper, Ga., to Miss Mozell Creech in Atlanta, February 9.

LEE E. BRANSFORD JR. to Miss Edna Earle Hobbs, both of Jacksonville, Fla., February 8.

PHILIP BERNARD BLEECKER to Miss June Boyer, both of Memphis, Tenn., February 8.

BEVERLY KENNON PETER to Miss Mary Shanklin, both of Beckley, W. Va., February 8.

CLYDE A. SMITH to Miss Mary Caperton Banks, both of Beckley, W. Va., February 8.

PRENTISS BAILEY, Montgomery, Ala., to Miss Edith Larabee of Chicago, January 29.

ALEX E. FAIRSHTER, Brookport, Ill., to Miss Jeanne Gorman in Philadelphia, February 4.

JAMES J. REDMOND to Miss Frances Ann Peck, both of Cedar Rapids, Iowa, February 5.

LOUIS ERIC MARSHALL to Miss Helen Brandt, both of New York, February 23.

CHARLES N. EARL, Portland, Ore., to Miss Betty Vogel of Union, January 4.

HENRY ROSS, New York, to Miss Glenda Farrell in Passaic, N. J., in January.

HAROLD S. FRIEDMAN to DR. MARY ZELDES, both of Chicago, Feb. 1, 1939.

Deaths

Henry Larned Keith Shaw * Albany, N. Y.; Albany Medical College, 1896; instructor in diseases of children from 1899 to 1903, lecturer from 1903 to 1906, clinical professor of pediatrics from 1906 to 1938 and since 1938 professor of pediatrics at his alma mater; consulting pediatrician, New York State Department of Health, from 1912 to 1914; in the latter year organized its division of child hygiene, of which he was director until 1919; since that time had continued his association with the department in an advisory capacity and for many years had been consultant in child hygiene; was a member of its advisory committee on maternal and child welfare; past president of the American Pediatric Society and the American Child Hygiene Association; member of the American Academy of Pediatrics; in 1906 a delegate to the International Medical Congress in Lisbon, Portugal; medical examiner for the American Board of Pediatrics; served during the World War; attending to the pediatrician, Albany Hospital; medical director of the St. Margaret's House and Hospital; consulting pediatrician to the Little Falls (N. Y.) Hospital, Brady Memorial Hospital, Albany, Glens Falls (N. Y.) Hospital, Vassar Brothers Hospital, Poughkeepsie, Memorial Hospital of Greene County, Catskill, and the Mary McClellan Hospital, Cambridge; author of "Communicable Diseases in Children"; translator of Pfandl and Schlossman's "Diseases of Children"; aged 67; died, March 26, of coronary thrombosis.

John Larrabee Pomeroy, Los Angeles; Hospital College of Medicine, Louisville, Ky., 1903; University and Bellevue Hospital Medical College, New York, 1909; member of the California Medical Association; professor of public health and preventive medicine at the College of Medical Evangelists; assistant surgeon in the United States Army from 1907 to 1909; served during the World War; past president of the Western Branch of the American Public Health Association; was a director of the Los Angeles County Tuberculosis Association; for many years health officer of Los Angeles; in 1934 was awarded the Peter Ling Award by the American Public Health Association; aged 57; died, March 24, in the California Lutheran Hospital of chronic nephritis.

Collier Ford Martin * Philadelphia; University of Pennsylvania Department of Medicine, Philadelphia, 1900; professor and vice dean of proctology at the Medico-Chirurgical College, Graduate School of Medicine, University of Pennsylvania; formerly professor of proctology at the Temple University School of Medicine; member of the American Proctologic Society; fellow of the American College of Surgeons; served during the World War; aged 68; died, March 22, in the Graduate Hospital, of diabetes mellitus and acute hepatic insufficiency.

Henry Garnsey Ohls * Chicago; Rush Medical College, Chicago, 1887; served for many years as assistant chief of the bureau of vital statistics, Chicago Department of Health; in 1909 became a member of the editorial staff of the *Illinois Medical Journal* and four years later was named its managing editor, which position he held for twenty-eight years; aged 80; died suddenly, March 17, of coronary thrombosis.

Leo Handel Neuman * Albany, N. Y.; Albany Medical College, 1892; member of the American Gastro-Enterological Association; professor of gastroenteric diseases and clinical professor of theory and practice of medicine at his alma mater in 1908; on the staff of the Albany Hospital from 1908 to 1919; aged 72; died, March 15, of mesenteric thrombosis.

Andrew James Gilmour * New York; Columbia University College of Physicians and Surgeons, New York, 1899; aged 70; consulting dermatologist, Englewood (N. J.) Hospital; at various times on the staffs of the Manhattan State Hospital and the New York Hospital, where he died, March 9, of arteriosclerosis and heart disease.

Leroy K. Leslie, Bareville, Pa.; Jefferson Medical College of Philadelphia, 1889; member of the Medical Society of the State of Pennsylvania; past president of the Lancaster County Medical Society; deputy coroner in Upper Leacock and Leacock townships and for many years registrar of vital statistics; aged 79; died, February 26.

Samuel Alfred Beddall, Beacon, N. Y.; University of Louisville (Ky.) Medical Department, 1917; member of the Medical Society of the State of New York; served during the World War; on the staff of the Veterans Administration Facility, Castle Point; aged 47; was asphyxiated, March 9, by illuminating gas.

William Joseph Anderson, Chicago; Chicago Homeopathic Medical College, 1898; Rush Medical College, Chicago, 1903; fellow of the American College of Surgeons; past president of the Dickinson County (Mich.) Medical Society; aged 64; died in February at the Veterans Administration Facility, Hines, Ill.

Harmon Talley Rhoads Sr. * Everett, Wash.; University Medical College of Kansas City, Mo., 1910; fellow of the American College of Surgeons; past president of the Medical Association of Montana; on the staffs of the General Hospital and the Providence Hospital; aged 61; died, February 6.

Anna Gove Richardson, Lakeville, Mass.; Woman's Medical College of Pennsylvania, Philadelphia, 1891; member of the Massachusetts Medical Society; fellow of the American College of Surgeons; for many years on the staff of the Vincent Memorial Hospital, Boston; aged 79; died, February 1.

Emmet Bernard Anderson, Americus, Ga.; Atlanta Medical College, 1916; member of the Southeastern Surgical Congress; fellow of the American College of Surgeons; served during the World War; visiting surgeon, Americus and Sumter County Hospital; aged 48; died, February 21.

Crittenden Joyes, Fort Worth, Texas; University of Louisville (Ky.) Medical Department, 1892; fellow of the American College of Surgeons; on the staffs of the Methodist and All Saints hospitals and St. Joseph's Infirmary; aged 71; died, March 23, of coronary occlusion.

John Henry Fenelon * Bloomington, Ill.; Rush Medical College, Chicago, 1889; past president of the McLean County Medical Society; aged 76; on the staffs of the Mennonite Hospital and St. Joseph's Hospital, where he died, March 3, of uremia and myocarditis.

Milton Stanton Ireland, Atlantic City, N. J.; Jefferson Medical College of Philadelphia, 1902; formerly on the staff of the Atlantic City Hospital; at one time a member of the board of education; aged 60; died, March 1, in Philadelphia of coronary thrombosis.

John B. Fleet, New Franklin, Mo.; American Medical College, St. Louis, 1887; member of the Missouri State Medical Association; formerly mayor; aged 79; died, March 16, in Portland, Ore., of acute coronary thrombosis, myocarditis and arteriosclerosis.

James Love Collins * Turlock, Calif.; St. Louis College of Physicians and Surgeons, 1909; veteran of the Spanish-American and World wars; at one time president of the school board and board of health of Sheffield, Iowa; aged 65; died, February 1.

Thomas F. Robertson, Brockville, Ont., Canada; McGill University Faculty of Medicine, Montreal, Que., 1891; was chairman of the public utilities commission in Brockville several times and senior coroner for Leeds County; aged 71; died, January 29.

Hiram B. Russell, Sheffield, Pa.; Western Reserve University Medical Department, Cleveland, 1890; member of the Medical Society of the State of Pennsylvania; past president of the Warren County Medical Society; aged 73; died, February 19.

Charles Mark Brookings, Du Quoin, Ill.; Missouri Medical College, St. Louis, 1898; member of the Illinois State Medical Society; aged 72; on the staff of the Marshall Browning Hospital, where he died, March 9, of arteriosclerosis and uremia.

Robert Reeve Dockweiler, Los Angeles; Harvard Medical School, Boston, 1933; member of the California Medical Association; on the staffs of the Presbyterian and St. Vincent's hospitals; aged 34; died, February 21, of carcinoma of the left kidney.

Carl Ellsworth Evans * Newark, Ohio; Ohio Medical University, Columbus, 1903; fellow of the American College of Surgeons; on the staff of the Newark City Hospital; aged 61; died, February 26, in Ocala, Fla., of a self-inflicted bullet wound.

Henry Buchanan Fuston * Bokchito, Okla.; University of Nashville (Tenn.) Medical Department, 1909; formerly county health officer; past president of the Bryan County Medical Society; aged 55; died, February 22, in a hospital at Durant.

Adolph Zeh, New York; College of Physicians and Surgeons, medical department of Columbia College, New York, 1887; member of the Medical Society of the State of New York; aged 77; died, February 24, of arteriosclerotic heart disease.

William Prewett Parks, Hot Springs National Park, Ark.; Hospital College of Medicine, Louisville, Ky., 1896; past president of the state board of health; at one time mayor of Mena; aged 67; died, February 7, in a hospital at Fort Smith.

Jose M. Rodriguez, Alpine, Texas; Universidad Nacional Facultad de Medicina, Mexico, D. F., 1898; aged 70; died, February 15, in a hospital at San Antonio of incarcerated inguinal hernia with perforation of the ileum and peritonitis.

De Witt Clinton MacClymont Ⓢ Northport, N. Y.; Bellevue Hospital Medical College, New York, 1897; on the staff of the Huntington (N. Y.) Hospital; aged 65; died, February 17, of chronic myocarditis and cirrhosis of the liver.

Sidney Norman Gholsen, Waynesboro, Va.; University of Cincinnati College of Medicine, 1935; captain in the medical reserve corps of the United States Army; aged 28; was killed, February 28, in an automobile accident near Fort Meade, Md.

John Edward Herrity, New York; Yale University School of Medicine, New Haven, Conn., 1897; member of the Medical Society of the State of New York; for many years city medical examiner; aged 65; died, February 17, in Southern Pines, N. C.

Edgar McMillen Ickes, Fremont, Ohio; Western Reserve University School of Medicine, Cleveland, 1901; for many years on the staff of the Memorial Hospital of Sandusky County; aged 66; died, February 21, of cerebral hemorrhage.

Joseph Harold Ralston, Cleveland; University of Wooster Medical Department, Cleveland, 1913; member of the Ohio State Medical Association; served during the World War; aged 54; died, February 12, of carbon monoxide poisoning.

Cullen Bryant Wilson, Sarasota, Fla.; Medical College of Alabama, Mobile, 1906; member of the Florida Medical Association; aged 62; died, February 24, in a hospital at Tampa of chronic nephritis and hypertensive heart disease.

James P. Marsh, Troy, N. Y.; Albany Medical College, 1885; fellow of the American College of Surgeons; consulting surgeon, Samaritan and Leonard hospitals; aged 78; died, February 23, of pulmonary thrombosis following influenza.

Oscar Rudolph Engelmann Ⓢ St. Louis; Washington University School of Medicine, St. Louis, 1906; served during the World War; aged 56; died, March 8, in the Deaconess Hospital of mitral insufficiency and cirrhosis of the liver.

Benjamin Griswold Webb, Andrews, N. C.; Louisville (Ky.) Medical College, 1885; member of the Medical Society of the State of North Carolina; aged 78; died, February 9, of acute cardiac dilatation and chronic interstitial nephritis.

Byron Lee Arthur, Lindale, Texas; University of Louisville (Ky.) Medical Department, 1896; member of the State Medical Association of Texas; aged 67; died, March 7, in the Mother Frances Hospital, Tyler, of coronary occlusion.

William Lee Clark, Harrisburg, Pa.; Johns Hopkins University School of Medicine, Baltimore, 1923; member of the Medical Society of the State of Pennsylvania; aged 44; was found dead, February 28, of an overdose of a sedative.

Isaac Marion Huskey, Cave City, Ark. (licensed in Arkansas in 1903); member of the Arkansas Medical Society; past president of the Independence County Medical Society; aged 59; died, February 26, of coronary occlusion.

Samuel Ford Talbott, Morgantown, W. Va.; University of Cincinnati College of Medicine, 1921; member of the West Virginia State Medical Association; aged 51; died, February 24, in the City Hospital of cerebral hemorrhage.

Moses Hoge Tredway, Emporia, Va.; Maryland Medical College, Baltimore, 1911; member of the Medical Society of Virginia; aged 54; died, February 8, in the Stuart Circle Hospital, Richmond, of diverticulitis and pneumonia.

Edwin Lyle Campbell, Superior, Wis.; University of Colorado School of Medicine, Denver, 1934; member of the State Medical Society of Wisconsin; aged 32; died, February 14, of ruptured aneurysm of the circle of Willis.

George Calder Dunlevy Ⓢ Evansville, Ind.; New York Homeopathic Medical College and Hospital, New York, 1890; for many years on the staff of the Deaconess Hospital; aged 72; died, March 19, of carcinoma of the larynx.

Charles Wesley Pettit Ⓢ Minneapolis; University of Minnesota College of Medicine and Surgery, Minneapolis, 1903; an Affiliate Fellow of the American Medical Association; aged 63; died, February 25, in St. Mary's Hospital.

Compton Ney Crook, Moscow, Tenn.; Memphis (Tenn.) Hospital Medical College, 1904; served during the World War; aged 61; died, March 12, in the Veterans Administration Facility, Memphis, of carcinoma of the larynx.

Franklin Lafayette Warren Ⓢ Bridgewater, Mass.; University of Pennsylvania Department of Medicine, Philadelphia, 1899; aged 69; died, February 11, in the New England Baptist Hospital, Boston, of carcinoma of the rectum.

George Albert Baker, Hardin, Mont.; Keokuk (Iowa) Medical College, College of Physicians and Surgeons, 1908; member of the Medical Association of Montana; served during the World War; aged 61; died, February 3.

James Jernigan Crumbley, Sylvester, Ga.; Vanderbilt University School of Medicine, Nashville, Tenn., 1914; member of the Medical Association of Georgia; served during the World War; aged 53; died, February 17.

Carleton Shurtleff Francis, Brookline, Mass.; Harvard Medical School, Boston, 1892; member of the Massachusetts Medical Society; aged 74; died, March 8, at Kerrville, Texas, of arteriosclerosis and coronary occlusion.

William Andrew Jackson, Monteagle, Tenn.; College of Physicians and Surgeons, Baltimore, 1896; member of the Tennessee State Medical Association; aged 77; died, March 9, of myocarditis and aortic regurgitation.

Emerson Ellwood Darlington Ⓢ New Bloomfield, Pa.; Maryland Medical College, Baltimore, 1900; formerly on the staff of the Polyclinic Hospital, Harrisburg; aged 66; died, March 16, of coronary disease.

William Almon Werner, Niles, Ohio; Western Reserve University Medical Department, Cleveland, 1885; for many years city health commissioner; aged 84; died, February 15, of arterial thrombosis.

Sidney Fitzhugh Mioton, New Orleans; Tulane University of Louisiana School of Medicine, New Orleans, 1895; aged 66; died, February 9, of injuries received in an automobile accident.

Hugo Robert Chaloupka, Los Angeles; John A. Creighton Medical College, Omaha, 1911; member of the California Medical Association; aged 53; died, February 20, of coronary thrombosis.

John Martin Dumm, Mackeyville, Pa.; University of Pennsylvania Department of Medicine, Philadelphia, 1878; aged 87; died, March 8, in the Lockhaven (Pa.) Hospital of pneumonia.

Samuel Wesley Mellott, Woodstock, Va.; Howard University College of Medicine, Washington, D. C., 1897; aged 79; died, February 15, in the Cora Miller Memorial Hospital of uremia.

George W. Combs, Indianapolis; Medical College of Indiana, Indianapolis, 1884; member of the Indiana State Medical Association; aged 81; died, February 8, in the Methodist Hospital.

Edward Ford, Parma, Mo.; Barnes Medical College, St. Louis, 1905; aged 65; died, March 18, in the Veterans Administration Facility, Jefferson Barracks, of coronary arteriosclerosis.

George Emmett Bell, Montclair, N. J.; Howard University College of Medicine, Washington, D. C., 1920; aged 49; died, March 31, in New Rochelle, N. Y., of chronic myocarditis.

George Francis Woodruff, Joliet, Ill.; Reliance Medical College, Chicago, 1909; aged 75; formerly on the staff of the Silver Cross Hospital, where he died, February 16, of lung abscess.

LeRoy Pope Walker, Middle Haddam, Conn.; College of Physicians and Surgeons, medical department of Columbia College, New York, 1878; aged 86; died, February 4, of pneumonia.

Charles Henry Nicholas Heffron Ⓢ Adrian, Mich.; University of Wooster Medical Department, Cleveland, 1893; aged 70; died, March 22, of intestinal obstruction due to duodenal ulcer.

Franklin Albert Butterfield, Oregon, Ill.; Rush Medical College, Chicago, 1880; member of the Illinois State Medical Society; aged 86; died, February 17, in a hospital at Freeport.

James Skene Campbell, Lebanon, Tenn.; Vanderbilt University School of Medicine, Nashville, 1888; member of the Tennessee State Medical Association; aged 77; died, February 3.

Mary Glover Thompson Lowrey, Berkeley, Calif.; University of Michigan Department of Medicine and Surgery, Ann Arbor, 1886; aged 84; died, March 2.

Philip A. Brown, Poe, W. Va.; Kentucky School of Medicine, Louisville, 1894; aged 83; died, February 27, of heart disease.

Bureau of Investigation

SWINDLERS' SWAG—\$200,000

Mexicans Use Old Spanish Scheme to Gyp Physicians and Others

A procedure used in an attempt to mulct leading citizens of the United States of considerable quantities of money is frequently called "The Spanish Prisoner Swindle." It has been mentioned previously in *THE JOURNAL*, most recently under "General Medical News," Feb. 3, 1940, page 423.

Now comes a recrudescence of the letters. They are so similar in every respect to all their predecessors, even as to the amount of money involved, that there can be no question about their common general origin.

Reproduced herewith is one such letter that was received by a Chicago physician:

Mexico City, Feb. 25, 1941.

Dr. W. C.,
3 Sheridan Rd.,
Chicago, Ill.
Dear Sir:

A person who knows you and who has spoken very highly about you has made me trust you a very delicate matter on which depends the entire future of my dear daughter, as well as my very existence.

I am in Prison sentenced for bankruptcy, and I wish to know if you are willing to help me to save the sum of \$285,000.00. U. S. Cy, which I have in Bank bills hidden in a secret compartment of a trunk that is now deposited in a customhouse in the United States.

As soon as I send you some undeniable evidence it is necessary for you to come and pay the expenses incurred in connection with my process, so the embargo on my suit-cases can be lifted. One of these suit-cases contains a baggage check that was given to me at the time of checking my trunk for North America; this trunk contains the sum above mentioned.

To compensate all your troubles I will give you the THIRD PART OF THE SAID SUM.

Fearing that this letter may not come to your hands, I will not sign my name until I hear from you and then I will entrust you with my whole secret. For the time being I am only signing "R."

Due to serious reasons of which you will know later, please reply via AIR MAIL or WIRE. I beg you to treat this matter with the most absolute reserve and discretion.

Due to the fact that I am in charge of the Prison school I can write you like this and entirely at liberty.

I cannot receive your reply directly in this Prison, so in case you accept my proposition, please air-mail your letter to a person of my entire trust who will deliver it to me safely and rapidly. This is his name and address.

Miguel Ordoñez.
Humboldt 22.-
Mexico, City.-

"R."

The signatures on these letters vary extensively. In view of the present influx of such letters in the United States, attention is called at this time to a press release issued by the Post Office Department last August. This release states that Camilo Lopez Vasquez, Jose Gonzalez Vasquez, Jose Barron Meza, Manuel Gomez and Maria De Rosos are all indicted after the evidence in regard to this international confidence game known as the "Spanish Prisoner swindle" was presented to the grand jury by United States Attorney Frank J. Hennessy. The Post Office Department has received as many as seven hundred complaints a month regarding this type of swindle, and such complaints come from every state in the Union.

Because of the increasing number of victims, every effort was made to stamp out this type of fraud, both by criminal prosecution and by general publicity. This swindle is of ancient origin.

If the addressee responds, he is induced by further correspondence to come to Mexico and bring with him approximately \$3,000, the amount of money needed to "lift the embargo" mentioned in the first letter. On his arrival in Mexico, the victim is met by swindlers and is thereafter quickly relieved of his funds by trickery or, if necessary, by physical force, according to the Post Office Department release.

It is the opinion of the Post Office Department that the phenomenal success of the existing operations is doubtless accounted for by the nearness of Mexico and its easy accessibility to American citizens. It is estimated that within a year

and a half up to August 1940 individuals operating out of Mexico have swindled citizens of this country of approximately \$200,000. The Department of Justice and the Post Office Department urge the cooperation of all citizens in eradicating this fraud and request that any one receiving a Spanish swindle letter bring it to the attention of the Department of Justice or the Post Office Department. At various periods in the past few years those engaging in these activities have given special attention to the physicians of this nation. At present they seem to be repeating this procedure, and it is hoped that this warning will serve to place all such communications in the hands of the proper authorities.

"ELECTREAT MECHANICAL HEART" MISBRANDED

Government Agency Considers Peoria Gadget

The Federal Food and Drug Administration recently completed successful court proceedings against the Electreat Manufacturing Company of Peoria, Ill., which manufactures and distributes a small electrical gadget which it called a "mechanical heart." This was the first proceeding against an electrical device under the new Federal Food, Drugs and Cosmetic Act.

The trial was held in Kansas City, Mo., in the District Court of the United States with District Judge J. C. Collet presiding. Assistant United States Attorneys Charles King and Charles F. Lamkin Jr. presented a formidable array of experts to refute the contention of the manufacturer, C. W. Kent, that the queer machine was valuable in the treatment of many diseases such as "headache, neuralgia, sinus congestion, neuritis, sore throat, weak lungs, athletic strains, lumbago, rheumatism, gout, indigestion, constipation, piles, sexual weakness, enlarged prostate, paralysis, deafness, tooth ache, catarrh, broken bones, hardening of arteries, cramps of calf and nervousness," to mention but a few. It was also claimed that the device could be used "to enlarge bust or increase the flow of milk."

The Kansas City *Star* of Tuesday, Jan. 28, 1941 reported: "A queer gadget with a big name and an imposing list of human benefits claimed for it was being called bad names and its value questioned today by doctors and lawyers in the federal court of Judge John Caskie Collet. . . . Out of the contrast between the gadget and the claims for it the government seeks to build a case that will bar interstate shipment as a violation of the Federal Food and Drug Act because of mislabeling and misbranding.

"The 'heart' is manufactured at Peoria, Illinois, by C. W. Kent, who, the government asserts, receives \$100,000 a year from its manufacture and sales and that he has sold instruments valued at \$3,000,000 in the last ten years."

The gadget itself looks like a flashlight handle with a metal roller at one end. Inside the hollow handle are two ordinary flashlight batteries, a mechanical interrupter and faradic coils. Actually, the machine is a small faradic inductor which, when applied to the body, produces a tingling sensation and causes muscular spasm.

The Kansas City *Journal* for Jan. 28, 1941 stated that the manufacturer, C. W. Kent, "describes himself as a graduate of the United States Institute of Phrenology." The report continued: "Kent's pamphlets, designed to promote sales, were colorful in their language. They represented that the device, when applied to ailing human beings, produced 'rhythmic contraction of muscles, aiding the heart in forcing blood along its channels to carry away languishing tissue and to add healthful cells to normal tissues.'"

The various government experts rapidly pointed out the absurdities in the claims of the manufacturer. Finally the manufacturer went on the stand in his own defense. The Kansas City *Journal* of Jan. 30, 1941 reported that Kent "testified in Federal Court today he had devoted twenty years to the invention, and had sold between 240,000 and 250,000 of the 'hearts' to retail dealers."

"The dealers, he said, sell them for \$15. . . . Kent said he collaborated with a Dr. L. T. Bates, whom he described as 'a medical doctor much interested in the Abrams machine,' in preparing the pamphlet describing his 'mechanical heart.' . . . In direct examination by his attorney, Frederick Whitten, Kent testified: 'I had a course in high school entitled physics. I took another course about electric motors. The tuition was \$4 and the course ran three months, meeting twice a week. I missed a couple of classes.'"

"Kent added he was a graduate of the American Institute of Phrenology and said he attended classes of the institute in New York in 1896.

"Angered by a question by Charles F. Lamkin Jr., assistant United States district attorney, Kent snapped 'How was you born? I don't know.'"

On Jan. 30, 1941 Judge Collet decreed that the "Electreats" were misbranded. He allowed ten days for filing of briefs before the decision would be formally filed.

In a "Findings of Fact and Legal Conclusion" in this case, dated at Kansas City the 28th day of February 1941, Judge Collet pointed out that the misbranding is alleged on the basis of the charge that the labeling was misleading. In his findings it is stated that "Many claims are made for the instrument in the printed matter which accompanied the devices in the shipment thereof in interstate commerce. These claims are based, to a great extent, upon the premise that the use of the instrument will produce pulsations of the muscles of the body. The evidence is overwhelming that no such effect is or can be produced by this device. The claims are therefore misleading and cannot be and are not substantiated."

Judge Collet issued a Memorandum dated the same as the Findings, in which, among other things, he stated:

"An adequate amount of highly respectable and convincing testimony was offered by the Government to demonstrate that even the principle sought to be followed by the makers of the instrument. . . . Among others appearing for the Government was the eminent Physiologist, Dr. Carlson. His testimony and the illustrations he gave supporting his conclusions were in all respects as fully convincing of the accuracy of his judgment as was his test for the determination of which of two fluids was a sugar solution.¹

"The extent of the accuracy of the actual claims made for the Electreat in the literature accompanying it may be summarized much as one of the witnesses expressed it, when, in describing a diagram of the human anatomy with accompanying descriptive matter which appeared in one of the Exhibits, he stated that there was an element of truth in the diagram, the element of truth being . . . that the head was on the right end in the picture and the 'rump' appeared in the proper position. From a practical standpoint, the benefit to be derived from the use of the instrument was tersely stated by one of the several leading physicians of Kansas City, to be that the use of the instrument would not injure one if there was nothing the matter with him, but that if the person was suffering from any disorder or ailment, its use might and probably would be injurious."

Continuing, the judge stated:

"Further detailed reference to the fact should be unnecessary to demonstrate the irresistible conclusion arising from the evidence that the claims made for the devices in the literature accompanying them were as falsely misleading as might well be possible by the use of the English language. The conclusion follows that the Act of Congress has been violated and the requested order for the destruction of the devices must be made."

The final sentence of the Opinion is: "Formal findings of fact and conclusions of law are filed herewith. Judgment will be entered in accordance with the view herein expressed."

1. Time magazine, Feb. 10, 1941, page 44, l. c. 47: "Another time he had two beakers of liquid before him: one containing urine, the other, sugar solution. He stuck his finger in one of the containers, tasted it and said: 'Ya, dot's sugar.'"

Medical Examinations and Licensure

COMING EXAMINATIONS

BOARDS OF MEDICAL EXAMINERS

- ALABAMA: Montgomery, June 17-19. Sec., Dr. J. N. Baker, 519 Dexter Ave., Montgomery.
- ARKANSAS: * Medical, Little Rock, June 5-6. Sec., Dr. D. L. Owens, Harrison. Eclectic, Little Rock, June 5-6. Sec., Dr. Clarence H. Young, 1415 Main St., Little Rock.
- CALIFORNIA: Oral examination (required when reciprocity application is based on a state certificate or license issued ten or more years before filing application in California), Los Angeles, July 14. Written, San Francisco, June 30-July 3. Sec., Dr. Charles B. Pinkham, 1020 N St., Sacramento.
- CONNECTICUT: * Medical, Written, Hartford, July 8-9. Endorsement, Hartford, July 22. Sec., Dr. Thomas P. Murdock, 147 W. Main St., Meriden. Homeopathic, Derby, July 15-16. Sec., Dr. Joseph H. Evans, 1488 Chapel St., New Haven.
- DELAWARE: July 8-10. Sec., Medical Council of Delaware, Dr. Joseph S. McDaniel, 229 S. State St., Dover.
- DISTRICT OF COLUMBIA: * Washington, May 12-13. Sec., Commission on Licensure, Dr. George C. Ruhland, 203 District Bldg., Washington.
- FLORIDA: * Jacksonville, June 23-24. Sec., Dr. William M. Rowlett, Box 786, Tampa.
- GEORGIA: Atlanta, June. Sec., State Examining Boards, Mr. R. C. Coleman, 111 State Capitol, Atlanta.
- HAWAII: Honolulu, July 14-17. Sec., Dr. James A. Morgan, 48 Young Bldg., Honolulu.
- INDIANA: Indianapolis, June 17-19. Sec., Board of Medical Registration and Examination, Dr. J. W. Bowers, Citizens Trust Bldg., Fort Wayne.
- IOWA: * Iowa City, June 3-5. Dir., Division of Licensure and Registration, State Department of Health, Mr. H. W. Grefe, Capitol Bldg., Des Moines.
- KANSAS: Kansas City, June 17-18. Sec., Board of Medical Registration and Examination, Dr. J. F. Hassig, 905 N. 7th St., Kansas City.
- KENTUCKY: Louisville, June 5-7. Sec., State Board of Health, Dr. A. T. McCormack, 620 S. Third St., Louisville.
- MAINE: Augusta, July 1-2. Sec., Board of Registration in Medicine, Dr. Adam P. Leighton, 192 State St., Portland.
- MARYLAND: Medical, Baltimore, June 17-20. Sec., Dr. John T. O'Mara, 1215 Cathedral St., Baltimore. Homeopathic, Baltimore, June 17-18. Sec., Dr. John A. Evans, 612 W. 40th St., Baltimore.
- MASSACHUSETTS: Boston, July 8-11. Sec., Board of Registration in Medicine, Dr. Stephen Rushmore, 413-F State House, Boston.
- MICHIGAN: * Ann Arbor and Detroit, June 11-13. Sec., Board of Registration in Medicine, Dr. J. Earl McIntyre, 202-4 Hollister Bldg., Lansing.
- MISSISSIPPI: Jackson, June 25-26. Asst. Sec., State Board of Health, Dr. R. N. Whitfield, Jackson.
- MISSOURI: St. Louis, May 29-31. Sec., State Board of Health, Dr. Harry F. Parker, State Capitol Bldg., Jefferson City.
- NEBRASKA: * Omaha, June 12. All applications must be on file not later than May 29. Dir., Mrs. Jeanette Crawford, 1009 State Capitol Bldg., Lincoln.
- NEW JERSEY: Trenton, June 17-18. Sec., Dr. Earl S. Hallinger, 28 W. State St., Trenton.
- NEW YORK: Albany, Buffalo, New York and Syracuse, June 23-26. Chief, Bureau of Professional Examinations, 315 Education Bldg., Albany.
- NORTH CAROLINA: Raleigh, June 16-20. Sec., Dr. W. D. James, Hamlet.
- NORTH DAKOTA: Grand Forks, July 1-4. Sec., Dr. G. M. Williamson, 4½ S. Third St., Grand Forks.
- OHIO: Practical, June 11 and 14. Written, June 12-13. Sec., Dr. H. M. Platter, 21 W. Broad St., Columbus.
- OKLAHOMA: * Oklahoma City, June 11-12. Sec., Dr. James D. Osborn Jr., Frederick.
- PENNSYLVANIA: Philadelphia and Pittsburgh, July 8-12. Act. Sec., Bureau of Professional Licensing, Department of Public Instruction, Mrs. Marguerite G. Steiner, 358 Education Bldg., Harrisburg.
- RHODE ISLAND: * July 10. Acting Chief, Division of Examiners, Mr. E. Clyde Thomas, 366 State Office Bldg., Providence.
- SOUTH CAROLINA: Columbia, June 23-25. Sec., Dr. A. Earle Boozer, 505 Saluda Ave., Columbia.
- SOUTH DAKOTA: * Pierre, July 15-16. Dir., Medical Licensure, Dr. J. F. D. Cook, State Board of Health, Pierre.
- VERMONT: Burlington, June 17-19. Sec., Dr. F. J. Lawless, Richmond.
- VIRGINIA: Richmond, June 17-20. Sec., Dr. J. W. Preston, 30½ Franklin Road, Roanoke.
- WEST VIRGINIA: Wheeling, July 7-9. Sec., Public Health Council, Dr. C. F. McClintic, State Capitol, Charleston.
- WISCONSIN: * Milwaukee, June 24-27. Sec., Dr. H. W. Shutter, 425 E. Wisconsin Ave., Milwaukee.
- WYOMING: Cheyenne, June 2-3. Sec., Dr. M. C. Keith, Capitol Bldg., Cheyenne.

* Basic Science Certificate required.

BOARDS OF EXAMINERS IN THE BASIC SCIENCES

- ARKANSAS: Little Rock, May 19. Sec., Mr. Louis E. Gebauer, 701 Main St., Little Rock.
- CONNECTICUT: June 14. Address State Board of Healing Arts, 1945 Yale Station, New Haven.
- FLORIDA: De Land, June 7. Applications must be on file not later than May 24. Sec., Prof. J. F. Conn, John B. Stetson University, De Land.
- IOWA: Des Moines, July 8. Dir., Division of Licensure and Registration, State Department of Health, Mr. H. W. Grefe, Capitol Bldg., Des Moines.
- OKLAHOMA: Oklahoma City, May 22. Sec. of State, Hon. C. C. Childress, State Capitol, Oklahoma City.
- OREGON: Corvallis, July 12. Sec., State Board of Higher Education, Mr. Charles D. Byrne, University of Oregon, Eugene.
- RHODE ISLAND: May 21. Acting Chief, Division of Examiners, Mr. E. Clyde Thomas, 366 State Office Bldg., Providence.
- SOUTH DAKOTA: June. Sec., Dr. G. M. Evans, Yankton.
- WISCONSIN: Milwaukee, June 7. Sec., Prof. Robert N. Bauer, 3414 W. Wisconsin Ave., Milwaukee.

Bureau of Legal Medicine and Legislation

MEDICOLEGAL ABSTRACTS

Malpractice: Sponge Left in Wound; Applicability of Doctrine of Res Ipsa Loquitur.—The defendant physicians, in the course of an operation on the plaintiff's hip, left a gauze sponge deeply buried in the operative wound about ½ inch from the femur. The gauze remained there until it was removed by a second operation some months later. During the intervening period the plaintiff's leg became infected and discharged quantities of offensive pus through suppurating channels or sinuses, which originated in the vicinity of the sponge and extended through intervening tissues to the exterior. She suffered excessive pain, physical and mental disorders and possible permanent injury through the stiffening of the knee joint. Subsequently the plaintiff sued the defendants for malpractice. The defendants admitted that a gauze sponge had been left in the plaintiff's body, but they testified that nearly one hundred such sponges had been used during the operation and that they had exercised great care in the usual and customary manner to prevent any of them being left in the wound. They described the system used as "palpating," or feeling for the sponges, and claimed that they had done this thoroughly and with due care. Furthermore, several expert witnesses called by the defendants approved the methods used by the defendants during the operation. From a judgment for the plaintiff the defendants appealed to the Supreme Court of North Carolina.

The defendants contended that the plaintiff had produced no evidence of negligence except that which could be inferred under the doctrine of *res ipsa loquitur*, if it were applicable, and that such inference had been overcome by the defendants' evidence of due care. But they further contended that the doctrine of *res ipsa loquitur* was not applicable to malpractice cases. The Supreme Court admitted that a physician is not an insurer of results and that no presumption of negligence can arise merely because a particular course of treatment is unsuccessful. However, said the court, the doctrine of *res ipsa loquitur* is applicable in malpractice cases as well as in other cases involving negligence, where the only proper inference is that the injuries would not have happened except in the absence of due care. Furthermore, the doctrine of *res ipsa loquitur* has uniformly been applied to instances in which foreign objects, such as sponges, towels, needles, pieces of glass and the like, have been introduced into a patient's body during a surgical operation and left there. The court held, therefore, that the doctrine of *res ipsa loquitur* was applicable to the present case. It further held that the inferences which arise when that doctrine applies were not overcome simply by the introduction of evidence by the defendants. Such inferences are more than a mere *prima facie* case; they constitute evidence to be considered by the jury along with whatever evidence the defendants may also have produced. The court concluded, however, that the plaintiff was entitled to a judgment in her favor even without relying on the doctrine of *res ipsa loquitur* because the mere fact of leaving the sponge in the plaintiff's body was "so inconsistent with due care as to raise an inference of negligence." The judgment for the plaintiff was accordingly affirmed.—*Mitchell v. Saunders et al.*, 13 S. E. (2d) 242 (N. C., 1941).

War Risk Insurance: Permanency of Total Disability When Indicated Surgical Treatment Is Refused.—While serving with the Army in France in 1918 the insured was operated on for acute appendicitis. During the operation it was discovered that he was also suffering from a hernia, but nothing was done then to relieve that situation. On his discharge and return home, in 1919, the insured consulted his local physician concerning his condition and was advised, as early as May of that year, that he was suffering from adhesions following the appendectomy and that he should go to a hospital for observation and treatment. He failed to follow this advice, however, until he suffered a violent attack in August 1919. It was then found that his condition was already

beyond surgical aid and he died seven days later from acute dilatation of the stomach caused by the adhesions. The plaintiff, administrator of the insured's estate, subsequently sued the United States on a war risk insurance policy and obtained a judgment from which the defendant appealed to the United States circuit court of appeals, fourth circuit.

It was conceded that the insured was suffering from adhesions prior to the lapse of his policy and that these adhesions resulted in total disability. The only question for determination was whether or not the insured's total disability had become permanent at the time his policy lapsed. The government contended that the condition had not become permanent because (1) the evidence showed that proper surgery, which had been recommended to the insured in due time prior to his death, would relieve adhesions and result in a cure in 80 to 90 per cent of cases of this type, if performed before the patient was dying, and (2) because there was nothing in the record to show that the insured would not have been relieved by such an operation. The court held that, when the cause of a condition is known and when it is also recognized that such condition is curable frequently, permanence cannot be said to exist until a reasonable effort to cure has failed. Since the insured had failed to undergo treatment deemed reasonably certain of curing his ills, the court concluded that the plaintiff had failed to prove that the insured was permanently disabled. Judgment for the plaintiff was therefore reversed.—*United States v. Marsh et al.*, 107 F. (2d) 173 (1939).

Optometry Practice Act (Minnesota): Right of Unlicensed Person to Own Eye Testing Devices for Use by Licensed Optometrist.—The defendants operated a jewelry store in which they sold eyeglasses for the correction of vision. They were not licensed to practice optometry but they employed a duly licensed optometrist who had exclusive charge, supervision and control of the optometric phase of the defendants' business. The optometrist made examinations of eyes, prescribed eyeglasses, had prescriptions filled by an optical firm and fitted the eyeglasses to the customers' eyes. He was paid a weekly salary by the defendants. He made no specific charge for his services, as the price of the eyeglasses included compensation for all professional services rendered. The money collected from the optometric business was turned over to the defendants. The defendants owned all the equipment, apparatus and materials used by the optometrist in conducting the business, including apparatus for testing and measuring the powers of vision of the human eye. The state petitioned for an injunction to enjoin the defendants from engaging in the unlawful practice of optometry, and from an order denying the injunction the state appealed to the Supreme Court of Minnesota.

Both parties relied on the following provision in the Minnesota optometry practice act (Mason's Minn. St. 1938 Supp., sec. 5789), which provides:

And it shall be unlawful for any person, not licensed as an optometrist hereunder, to sell or dispose of, at retail, any spectacles, eye glasses or lenses for the correction of vision in any established place of business or elsewhere in this state except under the supervision, direction and authority of a duly licensed optometrist holding a certificate under this chapter, who shall be in charge of and in personal attendance at the booth, counter or place where such articles are sold or disposed of.

The defendants contended that their sales of eyeglasses were not illegal because they were made under the supervision, direction and authority of a duly licensed optometrist. In a prior decision, *Williams v. Mack*, 202 Minn. 402, 278 N. W. 585, abstr. J. A. M. A. 111:2332 (Dec. 17) 1938, said the Supreme Court of Minnesota, this court held that the employment of an optometrist under an arrangement identical with that used by the defendants in the present case was lawful. Accordingly, the court held that the defendants were not engaged in the unlawful practice of optometry by employing a licensed optometrist to conduct the optometric phase of their business. The state contended, however, that the defendants' ownership and possession of the eye testing apparatus constituted the unlawful practice of optometry under another provision of the same section of the Minnesota optometry practice act which provides that any person shall be deemed to be practicing optometry who shall "have in his possession testing appliances for the purpose of the measurement of the powers

of vision." The court held that the two provisions quoted, being parts of the same section of the act, must be construed together and, as already pointed out, the defendants had the right to engage in the business of selling eyeglasses as long as such sales were made under the personal charge and direction of a duly licensed optometrist. Permission to engage in the selling of eyeglasses includes also the right to do the things reasonably and properly incident to such dealing. Ownership and possession of eye testing instruments and other appliances by the unlicensed vendor for the sole use of the licensed optometrist rendering the optometric services, in the judgment of the court, is incident to the rendition of such services and to the right to engage in the business of selling eyeglasses. The court pointed out that there was no provision in the law requiring an optometrist employed by another to furnish and provide his own apparatus in carrying on his employer's business. The court concluded, therefore, that the defendants' possession of the eye testing apparatus and equipment under the circumstances disclosed did not constitute the unlawful practice of optometry. Accordingly, the judgment for the defendants was affirmed.—*State v. Goodman et al.*, 288 N. W. 157 (Minn., 1939).

Osteopathy: Osteopath a "Licensed Physician" Under Statute Relating to Coroners.—The relator, an osteopathic physician and surgeon licensed by the state medical board of Ohio to practice osteopathy and surgery, petitioned the defendant Board of Elections of Darke County, Ohio, to accept and file his declaration of candidacy for nomination to the office of coroner on the Democratic ticket and to cause his name to be printed on the official primary election ballot. On the refusal of the board to take the action requested, the relator applied to the Supreme Court of Ohio for a writ of mandamus to compel such action.

The defendant contended that an osteopathic physician and surgeon is not a "licensed physician" within the purview of section 2856-3 of the General Code of Ohio, which provides:

No person shall be eligible to the office of coroner in any county except a licensed physician of good standing in his profession or a person who shall have previously served as coroner prior to his election.

The Supreme Court, however, held that the legislature, in passing the section quoted, was interested only in the duties of a coroner and in providing that a layman, unless he had previously been a coroner, should not be eligible for the office. The legislature thus used the term "licensed physician," or a "physician" who is "licensed," merely to distinguish such persons from laymen in general. The use of such phraseology, continued the court, was not for the purpose of distinguishing between the various schools of medicine or the different kinds of licensed physicians. The court concluded that, until such time as the legislature by appropriate legislation indicates more definitely what it intended by the term "licensed physician," a licensed osteopath is a "licensed physician" within the meaning of section 2856-3. The writ of mandamus was therefore allowed.—*State ex rel. Kester v. North et al.*, Board of Elections, 26 N. E. (2d) 1020 (Ohio, 1940).

Society Proceedings

COMING MEETINGS

American Medical Association, Cleveland, June 2-6. Dr. Olin West, 535 North Dearborn St., Chicago, Secretary.

American Association for the Study of Allergy, Cleveland, June 2-3. Dr. J. Harvey Black, 1405 Medical Arts Bldg., Dallas, Tex., Secretary.

American Association for the Study of Goiter, Boston, May 12-14. Dr. W. Blair Mosser, 133 Biddle St., Kane, Pa., Secretary.

American Association for the Surgery of Trauma, Montreal and Montebello, Canada, May 29-31. Dr. Ralph G. Carothers, 409 Broadway, Cincinnati, Secretary.

American Association for Thoracic Surgery, Toronto, Canada, June 9-11. Dr. Richard H. Meade Jr., 2116 Pine St., Philadelphia, Secretary.

American Association of Genito-Urinary Surgeons, Hot Springs, Va., May 29-31. Dr. Charles C. Higgins, 2020 East 93d St., Cleveland, Secretary.

American Association of Medical Milk Commissions, Cleveland, June 1-2. Dr. Paul B. Cassidy, 2037 Pine St., Philadelphia, Secretary.

American Association on Mental Deficiency, Salt Lake City, June 20-24. Dr. E. Arthur Whitney, Washington Road, Elwyn, Pa., Secretary.

American Broncho-Esophagological Association, Cleveland, June 3. Dr. Paul H. Holinger, 1150 North State St., Chicago, Secretary.

American College of Chest Physicians, Cleveland, May 31-June 2. Dr. Paul H. Holinger, 500 North Dearborn St., Chicago, Secretary.

American Gynecological Society, Colorado Springs, May 26-28. Dr. Richard W. TeLinde, Johns Hopkins Hospital, Baltimore, Secretary.

American Heart Association, Cleveland, May 30-31. Dr. Howard B. Sprague, 50 West 50th Street, New York, Secretary.

American Laryngological Association, Atlantic City, May 28-30. Dr. Charles J. Imperatori, 108 East 38th St., New York, Secretary.

American Laryngological, Rhinological and Otolological Society, Los Angeles, June 16-18. Dr. C. Stewart Nash, 277 Alexander St., Rochester, N. Y., Secretary.

American Medical Women's Association, Cleveland, June 1-2. Dr. Etta Gray, 649 South Olive St., Los Angeles, Secretary.

American Neurological Association, Atlantic City, N. J., June 9-11. Dr. Henry A. Riley, 117 East 72d St., New York, Secretary.

American Ophthalmological Society, Hot Springs, Va., May 29-June 1. Dr. Eugene M. Blake, 303 Whitney Ave., New Haven, Conn., Secretary.

American Orthopedic Association, Toronto, Canada, June 9-12. Dr. Charles W. Peabody, 474 Fisher Bldg., Detroit, Secretary.

American Otolological Society, Atlantic City, N. J., May 26-28. Dr. Isidore Friesner, 36 East 73d St., New York, Secretary.

American Pediatric Society, Hot Springs, Va., May 22-24. Dr. Hugh McCulloch, 325 North Euclid Ave., St. Louis, Secretary.

American Proctologic Society, Cleveland, June 1-3. Dr. William H. Daniel, 1930 Wilshire Blvd., Los Angeles, Secretary.

American Radium Society, Cleveland, June 2-3. Dr. William E. Costolow, 1407 South Hope St., Los Angeles, Secretary.

American Rheumatism Association, Cleveland, June 2. Dr. A. R. Shands, Dupont Institute, Wilmington, Del., Secretary.

American Society of Clinical Pathologists, Cleveland, May 30-June 1. Dr. A. S. Giordano, 531 North Main St., South Bend, Ind., Secretary.

American Therapeutic Society, Cleveland, May 30-31. Dr. Oscar B. Hunter, 1835 Eye St. N.W., Washington, D. C., Secretary.

American Urological Association, Colorado Springs, Colo., May 19-22. Dr. Clyde L. Deming, 789 Howard Ave., New Haven, Conn., Secretary.

Association for Research in Ophthalmology, Cleveland, June 3. Dr. Conrad Berens, 35 East 70th Street, New York, Secretary.

Connecticut State Medical Society, Bridgeport, May 21-22. Dr. Creighton Barker, 258 Church St., New Haven, Secretary.

Georgia Medical Association of, Macon, May 13-16. Dr. Edgar D. Shanks, 478 Peachtree St., N.E., Atlanta, Secretary.

Idaho State Medical Association, Sun Valley, June 18-21. Dr. F. B. Jeppesen, 105 North 8th St., Boise, Secretary.

Illinois State Medical Society, Chicago, May 20-23. Dr. Harold M. Camp, 224 South Main St., Monmouth, Secretary.

Iowa State Medical Society, Davenport, May 14-16. Dr. R. L. Parker, 3510 Sixth Ave., Des Moines, Secretary.

Kansas Medical Society, Topeka, May 13-15. Mr. C. G. Munns, 112 West Sixth St., Topeka, Executive Secretary.

Maine Medical Association, York Harbor, June 22-24. Dr. Frederick R. Carter, 22 Arsenal St., Portland, Secretary.

Massachusetts Medical Society, Boston, May 21-22. Dr. Robert N. Nye, 8 Fenway, Boston, Secretary.

Medical Library Association, Ann Arbor, Mich., May 29-31. Miss Anna C. Hilt, 25 Shattuck St., Boston, Secretary.

Minnesota State Medical Association, St. Paul, May 26-28. Dr. B. B. Souster, 493 Lowry Medical Arts Bldg., St. Paul, Secretary.

Mississippi State Medical Association, Biloxi, May 13-15. Dr. T. M. Dye, Box 295, Clarksdale, Secretary.

Montana Medical Association of, Great Falls, June 24-26. Dr. Thomas F. Walker, 206 Medical Arts Bldg., Great Falls, Secretary.

National Gastroenterological Association, New York, May 13-16. Dr. G. Randolph Manning, Room 319, 1819 Broadway, New York, Secretary.

New Hampshire Medical Society, Manchester, May 13-14. Dr. Carleton R. Metcalf, 5 South State St., Concord, Secretary.

New Jersey Medical Society of, Atlantic City, May 20-22. Dr. Alfred Stahl, 55 Lincoln Park, Newark, Secretary.

New York State Association of Public Health Laboratories, Syracuse, May 19. Miss Mary B. Kirkbride, New Scotland Ave., Albany, Secretary.

North Carolina Medical Society of the State of, Pinehurst, May 19-21. Dr. I. H. Manning, Chapel Hill, Secretary.

North Dakota State Medical Association, Grand Forks, May 19-21. Dr. L. W. Larson, 221 Fifth St., Bismarck, Secretary.

Ohio State Medical Association, Cleveland, June 3. Mr. C. S. Nelson, 79 East State St., Columbus, Executive Secretary.

Oklahoma State Medical Association, Oklahoma City, May 19-22. Dr. L. S. Willour, 210 Plaza Court Bldg., Oklahoma City, Secretary.

Pacific Coast Oto-Ophthalmological Society, Los Angeles, May 26-29. Dr. C. Allen Dickey, 450 Sutter Street, San Francisco, Secretary.

Pacific Northwest Medical Association, Spokane, Wash., June 25-28. Dr. C. W. Countryman, 407 Riverside Ave., Spokane, Wash., Secretary.

Rhode Island Medical Society, Providence, May 28-29. Dr. Guy W. Wells, 124 Waterman St., Providence, Secretary.

Society of Surgeons of New Jersey, Plainfield, May 28. Dr. Walter B. Mount, 21 Plymouth St., Montclair, Secretary.

South Dakota State Medical Association, Mitchell, May 18-20. Dr. Clarence E. Sherwood, 107½ Egan Ave., Madison, Secretary.

Texas State Medical Association of, Fort Worth, May 12-15. Dr. Holman Taylor, 1404 West El Paso St., Fort Worth, Secretary.

Utah State Medical Association, Salt Lake City, June 12-14. Dr. D. G. Edmunds, 610 McIntyre Bldg., Salt Lake City, Secretary.

West Virginia State Medical Association, Charleston, May 12-14. Mr. Joe W. Savage, Public Library Bldg., Charleston, Executive Secretary.

Current Medical Literature

AMERICAN

The Association library lends periodicals to members of the Association and to individual subscribers in continental United States and Canada for a period of three days. Three journals may be borrowed at a time. Periodicals are available from 1931 to date. Requests for issues of earlier date cannot be filled. Requests should be accompanied by stamps to cover postage (6 cents if one and 18 cents if three periodicals are requested). Periodicals published by the American Medical Association are not available for lending but can be supplied on purchase order. Reprints as a rule are the property of authors and can be obtained for permanent possession only from them.

Titles marked with an asterisk (*) are abstracted below.

American Heart Journal, St. Louis

21:1-132 (Jan.) 1941

- *Changes in Heart Volume in Addison's Disease and Their Significance. T. H. McGavack, New York.—p. 1.
- Use of Cathode Ray for Recording Heart Sounds and Vibrations: II. Studies on Muscular Element of First Heart Sound. J. R. Smith, A. S. Gilson and W. B. Kountz, St. Louis.—p. 17.
- Effect of Intravenous Injection of Papaverine Hydrochloride on Mortality Resulting from Sudden Occlusion of Coronary Arteries in Dogs. C. G. McEachern, F. H. Smith and G. W. Manning, Toronto.—p. 25.
- Tetralogy of Eisenmenger. O. Saphir and M. Lev, Chicago.—p. 31.
- Studies of Criteria for Classification of Arterial Hypertension: Parts I to VII. J. Q. Griffith Jr., E. Roberts and H. O. Corbit, R. B. Rutherford, M. A. Lindauer, W. E. Fry, Philadelphia.—p. 47.
- *Treatment of Congestive Heart Failure with Orally Administered Mercurial Diuretic. R. C. Batterman, A. C. DeGraff and O. A. Rose, New York.—p. 98.
- Electrocardiographic Observations on Athletes Before and After a Season of Physical Training. W. W. Tuttle and H. M. Korn, Iowa City.—p. 104.

Changes in Heart Volume in Addison's Disease.—McGavack studied the relationship between cardiac mensuration and the stage of Addison's disease in 6 cases. He observed an average reduction of 31.9 per cent in heart volume in five instances of crisis and of 16.1 per cent in 3 patients with cortical insufficiency who were not having crises. Prior to the development of Addison's disease, 1 patient had a cardiac volume within normal limits. Two others, 1 first observed during a crisis and 1 with a crisis impending, regained a normal heart volume after adequate therapy. Serial estimations of the blood volume of 2 patients were performed, and significant lowering was seen only during crises. Patients with cortical insufficiency who were not having crises had valves within the normal range. The conclusion is that the reduction in cardiac volume in Addison's disease is a direct effect of the deficiency of adrenocortical hormone. When a crisis supervenes the diminished blood volume plays an accessory role in still further decreasing the size of the heart.

Oral Mercurial Diuretic for Congestive Heart Failure.—Batterman and his co-workers evaluated the diuretic effect of salyrgan-theophylline given orally in tablet form to patients with congestive heart failure. Nine patients were given five tablets of the drug (each tablet is equivalent to 30 mg. of mercury) whenever a diuretic was necessary, usually at intervals of from three to five days. All but 1 patient obtained a satisfactory effect, but even he on further treatment had a good response. The tablets were administered four times to 2 patients and five times to 1 without evidence of toxicity. The effectiveness of the oral preparation was compared with that of other diuretics. Of the fifty-six trials with the salyrgan-theophylline tablets on 29 patients a satisfactory diuresis was produced forty times, or 71.5 per cent. Parenteral preparations were more consistently effective, producing diuresis in from 90 to 95 per cent of the cases. Suppositories were effective in from 50 to 63 per cent of the trials. Oral administration causes a loss of from 3 to 5 pounds (1.3 to 2.3 Kg.) in body weight; occasionally the loss exceeds 8 pounds (3.6 Kg.). Parenteral preparations produce a greater diuresis, and weight losses of more than 8 pounds are common. Although the onset and peak of diuresis after oral administration occurred slightly later than after parenteral injection, usually the diuresis was complete within twenty-four hours. In 35 per cent of the trials a significant weight loss occurred within the second twenty-four hours. In eight of the sixteen instances in which the oral preparation failed to elicit a satisfactory response it was successful at other times. As with parenteral prepara-

tions, previous administration of ammonium chloride and digitalis increased the effectiveness of the oral preparation. Failure in some cases appeared to be related to the advanced state of heart disease and lack of digitalis or of ammonium chloride; in others there was no apparent reason. Three patients experienced gastrointestinal symptoms after taking the oral preparation. Dividing the dose or giving a smaller one might result in diuresis without these untoward effects (diarrhea and epigastric discomfort). Only extended studies on ambulatory patients or patients with chronic congestive heart failure will show whether repeated use is safe.

American Journal of Clinical Pathology, Baltimore

11:1-82 (Jan.) 1941

- Basophil Granulocyte, Basophilyctosis and Myeloid Leukemia, Basophil and "Mixed Granule" Types: Experimental, Clinical and Pathologic Study, with Report of New Syndrome. C. A. Doan and H. L. Reinhart, Columbus, Ohio.—p. 1.
- Influence of Antecedent Diet on Exton-Rose, One-Hour, Two-Dose Glucose Tolerance Test. P. H. Langner Jr. and H. L. Fies, Philadelphia.—p. 41.
- Subdivisions of Group A and Group AB, with Special Reference to So-Called Agglutinin As. A. S. Wiener and I. J. Silverman, New York.—p. 45.
- Determination of Plasma Prothrombin: Variations in Normal Men and Women. W. A. Hausse and L. M. Tocantins, Philadelphia.—p. 54.
- Pleural Mesothelioma with Unusual Rate of Growth. M. G. Bohrod, Peoria, Ill.—p. 60.
- Acute Monocytic Leukemia. L. M. Meyer and E. D. Flanagan, Brooklyn.—p. 68.

American J. Obstetrics and Gynecology, St. Louis

41:1-178 (Jan.) 1941. Partial Index

- *Edema in Preeclampsia and Eclampsia. W. J. Dieckmann, with assistance of Sylvia Kramer, Chicago.—p. 1.
- Urinary Incontinence Relieved by Restoration and Maintenance of Normal Position of Urethra. W. T. Kennedy, New York.—p. 16.
- *Are Estrogens Carcinogenic in the Human Female? Effect of Long-Continued Estrogen Administration on Uterine and Vaginal Mucosa of Human Female. S. H. Geist and U. J. Salmon, New York.—p. 29.
- Pulse and Respiratory Variations in Normal Women During Labor. H. E. B. Pardee and C. L. Mendelson, New York.—p. 36.
- *Rheumatic Heart Disease in Pregnancy. H. Gorenberg, Jersey City, N. J., and J. McGleary, Elizabeth, N. J.—p. 44.
- Clinical and Laboratory Differentiation of Spontaneous and Induced Abortion: Study of 502 Cases. Virginia Clay Hamilton, New York.—p. 61.
- Study of Pelvic Measurements in 550 Southern Women. C. J. Ragan, W. E. Levy and E. L. King, New Orleans.—p. 79.
- Clinical Study of Increased Response of Full Term Gravid Uterus to Pituitrin After Alkalinization. R. V. Boedeker, St. Louis.—p. 84.
- Treatment of Gonorrheal Salpingitis with Estrogenic Hormones. G. Weitzner, New York.—p. 92.
- Oral Pregnenolone in Treatment of Spontaneous Abortion. L. Krohn and J. M. Harris, Los Angeles.—p. 95.
- Clinical Experience in Treatment of Pelvic Inflammatory Disease with Intradermal Injections of Bacillus Coli Vaccine. E. G. Krieg, Detroit.—p. 105.
- Antuitrin-S Skin Test for Early Pregnancy. T. E. Mandy and A. J. Mandy, Baltimore.—p. 109.
- Fetal Motion Factor in Roentgenographic Diagnosis of Pregnancy. P. N. Bray, Duluth, Minn.—p. 113.
- Endometrial Biopsy in Early Extrauterine Pregnancy. D. R. Mishell, Newark, N. J.—p. 129.
- Simultaneous Occurrence of Carcinoma and Sarcoma in Same Uterus. A. C. Barnes, Ann Arbor, Mich.—p. 135.
- Vaginal Bleeding from Potassium Permanganate Burns. J. C. Shull, Boston.—p. 161.

Edema in Preeclampsia and Eclampsia.—Dieckmann studied the physiology of normal pregnant and toxemic women. In more than 2,700 patients with toxemia he made various examinations. He believes that his data and those in the literature indicate that the increased capillary permeability and a delayed or impaired water and sodium chloride elimination incidental to normal pregnancy are greatly augmented in certain patients, because either of internal or of external factors, resulting in an abnormal gain in weight and eventually in edema. From his studies he concludes that the following physiologic changes occur in normal pregnancy: 1. The venous pressure in the legs is increased and causes an increased loss of fluid from the blood into the tissues of the legs. 2. There is an increased capillary permeability. 3. The elimination of water and solids by the kidney is delayed or impaired. 4. The average serum protein concentration is 6.5 Gm. per hundred cubic centimeters. 5. The average colloid osmotic pressure of the serum protein is 28.7 cm. of water. If these changes are of greater magnitude than normal or if they are exaggerated by internal or external factors, preeclampsia and eclampsia may

occur. Thus the following is observed in these diseases: 1. Greater alterations than normal are present in the venous and capillary pressures and capillary permeability. 2. The average serum protein concentration in edematous patients with pre-eclampsia is 6.22, with eclampsia it is 6.7, and with vascular-renal disease and normal renal function it is 6.67 Gm. per hundred cubic centimeters. 3. The average colloid osmotic pressure of edematous preeclamptic patients is 24.9 and of toxemic patients without edema it is 26.5 cm. of water. 4. The retention of sodium, chlorine and water is greatly increased in some pregnant patients, resulting in an abnormal gain in weight and finally in edema. 5. Changes in the concentration of the female hormones are apparently associated with edema, but whether this is the cause or the result is not known. 6. The prevention and treatment of the edema depend on the dietary limitation of sodium chloride and water, the principal components of edema fluid. Sodium chloride restriction presents fewer difficulties and causes less discomfort than the restriction of water.

Are Estrogens Carcinogenic in Women?—In an effort to determine whether estrogen therapy induces endometrial or vaginal epithelial proliferation which may lead to the formation of neoplasms, Geist and Salmon made biopsies of the vaginal and endometrial mucosas of 206 women during various stages of treatment with estrogens. Treatment lasted for from six months to five and one half years. The first effect of estrogen, seen as early as four days after 100,000 international units of estrogen intramuscularly, on the atrophic vaginal mucosa is a rapid proliferation of the basilar epithelial cells. This proceeds at a rapid pace and leads to an increase in the number of epithelial layers and results in desquamation of some superficial epithelial cells. The proliferative activity is not uniform. Areas of hypoplasia are found adjacent to areas of active proliferation. If estrogen therapy is continued there is a progressive increase in the epithelial layers, accompanied by desquamation. There is a wide individual variation in the response to the same amount of the hormone. This variation is probably due to the degree and duration of estrogen deficiency prior to estrogen therapy and the rate of its absorption and excretion. Once morphologic restitution has been attained, further increase in dosage does not increase the proliferative response. The response of the atrophic endometrium to estrogen therapy is slower than that of the vaginal mucosa. Not infrequently from 400,000 to 600,000 international units of estrogen, which produces striking epithelial growth in the vaginal mucosa, will cause only slight proliferation in scattered areas of the endometrium. As the dosage approaches 1,000,000 international units the endometrium shows a more definite and uniform response, which resembles the proliferative pattern of the normal postmenstrual phase of the cycle. Uterine bleeding usually occurs after the patient has received from 1,000,000 to 1,500,000 international units during a period of from four to six weeks. Examination of the uterine blood revealed desquamated fragments of endometrium containing glands and stromal cells. Biopsies during this time exhibited various proliferative changes associated with distended (cystic) glands. Biopsies after bleeding ceased usually revealed a quiescent and, in many cases, an atrophic endometrium. Continued administration of estrogens after bleeding ceased resulted in a repetition of the proliferative process. In some cases this cyclic bleeding occurred at intervals of from four to ten weeks for from six to thirty-eight months. In these cases the endometrium at the end of these long periods does not show any greater proliferative activity than after the initial estrogen therapy. Essentially the same response followed therapy with estradiol dipropionate administered intramuscularly, orally, by cutaneous inunctions and by vaginal suppositories. In human beings it is impossible to administer the huge doses of estrogens that would justify comparison with the experimental production of carcinoma in rodents. However, within the limits of the dosage used in this investigation (up to 53,400,000 international units) there is no justification for the fear that genital carcinoma may result from the therapeutic use of estrogens.

Rheumatic Heart Disease in Pregnancy.—Gorenberg and McGleary reviewed the 345 cases of rheumatic heart disease admitted to the Margaret Hague Maternity Hospital from 1933 to 1939. There were 77 cardiac failures among the group. The authors believe that unless adequate bed rest is enforced the patients with heart disease who will fail are those whose measure of functional capacity is in the relatively severe grades of heart disease, those who are more than 30 years of age and those who give a history of previous decompensation. These patients should be willing, if they wish to assume the burden of pregnancy, to submit to frequent antepartum observations from the beginning of pregnancy and must be willing and able to spend the greater part of the pregnancy at absolute bed rest if necessary. The incidence of cardiac failure in pregnancy can be reduced if early and absolute bed rest is adhered to. There were 2 failures among the authors' last 103 cases; 1 of these was possibly preventable. Of the 77 cardiac failures 80 per cent occurred before the last month of gestation. Acute failure during labor is rare. A lightening of the steadily increasing circulatory burden that pregnancy exerts occurs from four to six weeks before delivery with a consequent clinical improvement. Therefore the authors feel that resort to late pregnancy terminations are not wise and they follow the general rule of allowing gestation to go to term. Each pregnancy is an individual problem in the management of labor. Twenty-nine, or 8.4 per cent, of the patients were delivered by the abdominal route and 91.5 per cent vaginally. The incidence of morbidity and the mortality are significantly higher following cesarean section and, as cardiac decompensation is rare during labor, the authors feel that the "burden of proof" in these cases lies with cesarean section. Therefore the patients who go into labor well compensated may in general be handled as though not suffering from heart disease.

American Journal of Ophthalmology, St. Louis

24:119-246 (Feb.) 1941

- Surgical Treatment of Syphilitic Optic Atrophy Due to Chiasmal Arachnoiditis. L. Hausman, New York.—p. 119.
Pseudomelanomas of Iris. Bertha A. Klien, Chicago.—p. 133.
Keratoplasty: Comments on Technique of Corneal Transplantation: Source and Preservation of Donor's Material: Report of New Instruments: Part II. R. Castroviejo, New York.—p. 139.
Screen Test and Its Modifications. Screen-Maddox Rod and Screen Comitance. J. W. White, New York.—p. 156.
Corneal Ulcer Associated with Gonorrhea. J. W. White, New York.—p. 156.
G. P. Meyer and J. Reber, New York.—p. 156.
Pseudoglioma of Retina. J. O. W. White, New York.—p. 164.
Sulfonamide Therapy of Trachoma: Experimental Study with Critical Analysis of Literature. J. E. Smith, L. A. Julianelle and J. H. Gamet, Rolla, Mo., and St. Louis.—p. 174.
Congenital Colobomas of Lower Lid. E. B. Spaeth, Philadelphia.—p. 186.
Total Lipid and Cholesterol Content of Cataractous and Sclerotic Human Lenses. P. W. Salit, Iowa City.—p. 191.

American Journal of Pathology, Boston

17:1-140 (Jan.) 1941

- Mesodermal Mixed Tumors of Body of Uterus. Averill A. Liebow and R. Tennant, Meriden, Conn.—p. 1.
Experimental Hypertension and Pregnancy in Dogs. J. R. Dawson, Jr., R. D. Cressman and A. Blalock, Nashville, Tenn.—p. 31.
Structure of Small Cerebral Arteries in Hypertension. A. B. Baker, Minneapolis.—p. 39.
Necrosis of Bone Marrow with Fat Embolism in Sickle Cell Anemia. L. J. Wade and L. D. Stevenson, New York.—p. 47.
Isolation of Virus of Herpes Simplex and Demonstration of Intracellular Inclusions in Case of Acute Encephalitis. Margaret G. Smith, E. H. Lennette and H. R. Reames, St. Louis.—p. 55.
Production of Neuron Injury and Necrosis with Virus of Poliomyelitis in Rabbits During Insulin Hypoglycemia. B. P. Sandler, New York.—p. 69.
Muscular Dystrophy in Biliary Fistula Dogs; Possible Relationship to Vitamin E Deficiency. K. M. Brinkhous and E. D. Warner, Iowa City.—p. 81.
Endometrial Response to Diethylstilbestrol in Radium-Induced Menopause. R. C. Grauer, C. F. Beall and G. R. Wilson, Pittsburgh.—p. 87.
Effect of Dibenzanthracene on Transplantable Mammary Adenofibroma of White Rat. J. H. Davis, K. M. Murphy and L. A. Emge, San Francisco.—p. 93.
Chorioallantoic Membrane of Developing Chick as Medium for Cultivation and Histopathologic Study of Pathogenic Fungi. M. Moore, St. Louis.—p. 103.
Rhabdomyomatosis of Heart in Guinea Pig. W. C. Hueper, New York.—p. 121.
Congenital Nodular Glycogenic Degeneration of Myocardium. R. E. Olsen and R. J. Cooper, Pontiac, Mich.—p. 125.
Osteoarthritis Deformans of Temporomandibular Joint. W. H. Bauer, St. Louis.—p. 129.

American Journal of Public Health, New York**31:1-116 (Jan.) 1941**

- Etiology of Anemias. C. C. Sturgis, Ann Arbor, Mich.—p. 10.
Engineering Services in Industry Other Than Control of Occupational Diseases. J. I. Connolly, Chicago.—p. 21.
Use of Existing Visiting Nurse Services for Industrial Work in Small Plants. Ruth W. Hubbard, Philadelphia.—p. 27.
Bacteriologic Diagnosis of Pneumonia in Relation to Chemotherapy. C. M. MacLeod and G. S. Mirick, New York.—p. 34.
Principles of Administration Applicable to Health Departments. L. D. Upson, Detroit.—p. 39.
A County Program for Care of Prematures. H. R. O'Brien and Marion I. Murphy, Olean, N. Y.—p. 45.
Observations on Familial Incidence of Cancer. J. A. Crabtree, Bethesda, Md.—p. 49.
Antirabic Vaccination: Present Status. L. T. Webster, New York.—p. 57.
Typhoid Typing in the Western States. A. S. Lazarus, Denver.—p. 60.
Some Trends in Public Housing. L. M. Graves, Memphis, Tenn., and A. H. Fletcher, Baltimore.—p. 65.
Massachusetts State Program for Care of Prematures. Florence L. McKay, Boston.—p. 72.

American Journal of Surgery, New York**51:1-308 (Jan.) 1941**

- The Past Half Century and Medical Education. R. L. Wilbur, San Francisco.—p. 27.
Surgical Internships Over the Past Fifty Years. J. A. Curran, Brooklyn.—p. 35.
Surgical Operations Fifty Years Ago. R. Matas, New Orleans.—p. 40.
Evolution of Modern Surgery. C. G. Heyd, New York.—p. 54.
A Half Century of Abdominal Surgery. M. T. Friedell and W. Walters, Rochester, Minn.—p. 66.
Progress in Obstetrics: 1890-1940. J. M. Slemmons, Los Angeles.—p. 79.
Notes on Fifty Years of Progress in Gynecology. H. C. Taylor Jr., New York.—p. 97.
Fifty Years of Orthopedic Surgery. E. G. Brackett, Boston.—p. 110.
Fifty Years' Progress in Urology. H. H. Young, Baltimore.—p. 120.
Advances in Neurologic Surgery During the Past Fifty Years. J. Browder, Brooklyn.—p. 164.
Fifty Years of Ophthalmology in the United States. C. Berens, New York.—p. 188.
Fifty Years of Otolaryngology. L. W. Dean, St. Louis.—p. 214.
Fifty Years of Thoracic Surgery. J. Alexander, Ann Arbor, Mich.—p. 217.
Some of the Developments in Radiology During the Last Forty-Five Years. E. P. Pendergrass, Philadelphia.—p. 225.
Fifty Years of Anesthesia. J. T. Gwathmey, New York.—p. 233.
Hospitals: 1890-1940. E. M. Bluestone, New York.—p. 244.
Surgery and the American Medical Association. M. Fishbein, Chicago.—p. 258.
Influence of the American Medical Association on Surgery. A. W. Allen, Boston.—p. 262.
Significance of the American College of Surgeons to Progress of Surgery in America. M. L. Mason, Chicago.—p. 267.
Certification of Specialists by the American Boards. P. Titus, Pittsburgh.—p. 287.
Southern Surgical Association: Historical Sketch. H. A. Royster, Raleigh, N. C.—p. 292.
The American Surgical Association. E. Eliot Jr., New York.—p. 300.
The American Gynecological Society. G. W. Kosmak, New York.—p. 305.

American Journal of Tropical Medicine, Baltimore**21:1-162 (Jan.) 1941**

- Malaria on the China Burma Highway. L. L. Williams Jr., Bethesda, Md.—p. 1.
Some Contributions of United States Naval Medical Officers to Science. C. S. Butler, Bristol, Tenn.—p. 13.
Amebiasis in the New Orleans Population as Revealed by Autopsy Examination of Accident Cases. E. C. Faust, New Orleans.—p. 35.
Observations on Natural Infections of *Endamoeba histolytica* in Ateles and Rhesus Monkeys. C. M. Johnson, Panama, Republic of Panama.—p. 49.
Excystation of *Endamoeba histolytica* in Bacteriologically Sterile Mediums. T. L. Snyder and H. E. Meloney, Nashville, Tenn.—p. 63.
Bwamba Fever and Its Causative Virus. K. C. Smithburn, A. F. Mahaffy and J. H. Paul, Entebbe, Uganda, East Africa.—p. 75.
Eggs of Some Costa Rican Anophelines. H. W. Kumm, San Jose, Costa Rica, Central America.—p. 91.
Studies in Technique of Raising Anopheline Larvae. M. Bates.—p. 103.
Intermittent Irrigation in Rice Cultivation and Its Effect on Yield, Water Consumption and Anopheles Production. Rolla B. Hill, Lisbon, Portugal, and F. J. C. Cambournac.—p. 123.
Reaction of Serums from Patients with Yaws in Quantitative Complement Fixation Tests for Syphilis and Tuberculosis. Elizabeth Maltaner, Albany, N. Y.—p. 145.
Experimentally Derived Method for Determining Degree of Infection in Avian Malaria. H. Beckman, Milwaukee.—p. 151.

Reaction of Serums from Patients with Yaws.—Maltaner examined 44 specimens of serum from patients with yaws by the quantitative tests for syphilis and tuberculosis. Forty-one of the serums reacted to the complement fixation test for syphilis. Thirty-five had titers greater than 10 and 24 were 100 or higher; 12 ranged from 100 to 200 and 12 from 200

to 400. Thus the degree of reaction was generally severe. The absence of a reaction in the other 3 cases was not explainable on the basis of the clinical data that were furnished. The same linear relations between the reagents were observed in the reactions of the serums from patients with yaws and the cholesterolized tissue extract antigen as characterize those of syphilitic serum. Precipitation tests for syphilis were made with 3 highly reacting serums with titers of 251, 347 and 384. Only partial reactions were obtained with 2 each in the Kahn and Kline tests of the undiluted serum. When the serum was diluted, well defined precipitation occurred. No specimens from patients with yaws reacted strongly in the complement fixation test for tuberculosis. All but two had titers in the range below 3, and the 2 were 3.5 and 3.8. Twenty-seven of the patients were said to show no evidence of tuberculosis; for the others no information regarding tuberculosis was given. The previously reported severe reactions of the leprosy serums with tubercle antigen, like those of the yaws serums in the test for syphilis, are undoubtedly associated with common antigenic constituents in the acid-fast, incitants of leprosy and tuberculosis and in the spirochetes of yaws and syphilis. This is further borne out by the characteristic linear relationships obtained in all these reactions. It would be interesting to have for comparison with observations in leprosy and yaws some results with serums from patients with malaria in which the significance of reactions obtained in serologic tests for syphilis so often comes into question.

Annals of Internal Medicine, Lancaster, Pa.**14:1123-1314 (Jan.) 1941**

- Significance of Urinary Hydrogen Ion Concentration: Critical Observations. M. A. Bridges and Majorie R. Mattice, New York.—p. 1123.
*Treatment of Staphylococcal Septicemia with Sulfamethylthiazole and Sulfathiazole: Report of Twelve Cases. M. Hamburger and J. M. Rueggesser, Cincinnati.—p. 1137.
*Premortary Symptoms of Acute Coronary Occlusion: Study of 260 Cases. A. M. Master, S. Dack and H. L. Jaffe, New York.—p. 1155.
Clinical Experiments with Mixtures of Standard and Protamine Zinc Insulins. H. Ulrich, Boston.—p. 1166.
Subacute Staphylococcal Endocarditis and Staphylococcal Bacteremia Without Endocarditis: Report of Favorable Effect of Sulfanilamide and Sulfathiazole in Two Cases. H. Southworth, New York.—p. 1180.
*Treatment of Pneumococcal Pneumonias with Sulfapyridine, Sulfathiazole and Serum: Analysis of Results of Specific Therapy at the Boston City Hospital from July 1939 Through June 1940. M. Finland, F. C. Lowell and E. Strauss, Boston.—p. 1184.
Liver Function in Hyperthyroidism, with Special Reference to Galactose Tolerance Test. S. S. Lichtman, New York.—p. 1199.
Large Healed Tuberculous Focus (Probably Primary) Simulating Metastatic Carcinoma of Lung. M. Kissin and A. G. Cohen, New York.—p. 1216.
Hippuric Acid Test in Hyperthyroidism. S. F. Haines, T. B. Magath and Marschelle H. Power, Rochester, Minn.—p. 1225.
Psychosis in Hypoparathyroidism: Report of Five Cases. J. A. Greene and L. W. Swanson, Iowa City.—p. 1233.
Cardiac Adaptations in Acute Progressive Anoxia. C. J. Wiggers, Cleveland.—p. 1237.
Hysteria—Some Common Misconceptions. D. Lester, Durham, N. C.—p. 1248.

Sulfamethylthiazole and Sulfathiazole for Septicemia.

—During the last year Hamburger and Rueggesser treated 12 patients with staphylococcal septicemia by means of thiazole derivatives of sulfanilamide; 8 recovered. The fatalities occurred among patients with acute staphylococcal endocarditis. The distribution of the foci among the 12 patients was as follows: osteomyelitis 3 (1 of whom had meningitis in addition), carbuncle 2, gluteal abscess 1, pyarthrosis 1, fracture 1 and endocarditis 4. If the deaths associated with acute bacterial endocarditis, a condition which still resists the best efforts of the therapist, are disregarded, there were 8 consecutive cases in which the blood stream was cleared of staphylococci. These patients might have survived had they received only supportive treatment; nevertheless their recovery indicates that the thiazole compounds should be given further trial. Study of the cases adduces no evidence of any effect on the local lesions. There were 2 instances of peripheral neuritis among patients treated with sulfamethylthiazole but none among those treated with sulfathiazole. The complication occurred at the beginning of the authors' experience with the drugs, when they were using larger doses than were later found necessary. Smaller doses may have prevented the neuritis. The "minor toxicities"—nausea, vomiting, rashes—appeared to be less frequent among patients receiving sulfa-

methylthiazole. Between 1933 and 1939, 27 cases of staphylococcal septicemia were recorded at the Cincinnati General Hospital, with only 4 recoveries.

Premonitory Symptoms of Acute Coronary Occlusion.

—Master and his associates prepared a special questionnaire to elicit the history of premonitory pain or discomfort in the chest prior to (as long as four weeks before) the attack of acute coronary occlusion of 260 patients. The physical and emotional activities associated with premonitory symptoms were also inquired into. Such symptoms were present among 44.2 per cent of the 260 patients. Of the majority they consisted of substernal or precordial pain or discomfort. Other prodromes were fatigue, weakness, gastric distress, dyspnea, palpitation, nervousness and dizziness. The sudden typical anginal syndrome or its sudden acceleration frequently preceded the attack of occlusion. The premonitory symptoms usually appeared within twenty-four hours of the acute attack, but sometimes two or three weeks before. Their duration varied from a few minutes to several hours. Although the premonitory pain was usually intermittent or continuous, frequently a period free from pain intervened before the occlusion. The premonitory symptoms occurred during rest 28.5, during mild or moderate activity or walking 68.5 and during strenuous effort 2.9 per cent of the time. The symptoms were not associated with clinical evidence of myocardial infarction. Fever, leukocytosis, tachycardia, drop in blood pressure and characteristic electrocardiographic changes were absent. The anatomic basis for the premonitory symptoms is assumed to be a gradual occlusion of the lumen of the coronary artery by progressive or recurrent intramural hemorrhage or by primary thrombosis on a plaque, which may take hours or days for completion. Early recognition of the premonitory symptoms should reduce the incidence of heart failure and decrease the mortality therefrom as immediate bed rest, which probably will not prevent the impending occlusion, will be possible.

Sulfapyridine, Sulfathiazole and Serum for Pneumonia.

—Finland and his colleagues state that, of the 911 cases of pneumonia admitted to the Boston City Hospital from July 1939 through June 1940, 691 were treated with sulfapyridine or sulfathiazole alone or with serum. Among these 691 specifically treated patients there were 113 deaths, a mortality of 16.4 per cent. The previous year 54 per cent of all patients with pneumococcal pneumonia received sulfapyridine or serum or both and the mortality was 17.5 per cent. The mortality among the patients who received no specific therapy (except sulfanilamide in a few instances) was 49.5 per cent. In more than three fourths of these fatal cases the etiologic diagnosis and usually the anatomic diagnosis was first made at necropsy. Most of these patients were being treated primarily for other serious and highly fatal illnesses. The gross mortality among 518 patients treated with sulfapyridine alone or with serum was 17.4 per cent, as compared to 12.4 per cent among the 169 who received sulfathiazole with or without serum. These two groups of cases were comparable with respect to all factors but age. More than half of the deaths among the sulfapyridine treated patients occurred in those who were more than 60 years of age, whereas only a third of those treated with sulfathiazole were of this age. As patients more than 60 years of age were relatively twice as frequent among the former and the mortality of the two groups was essentially the same, this factor alone may account for most, if not all, of the difference in mortality between the sulfapyridine and the sulfathiazole treated patients. The fact that the mortality in the sulfapyridine treated patients was higher after February 1 than before that time, when all the patients were treated with that drug, also is supportive. Many specifically treated patients had other serious illnesses, and the mortality among patients with such "secondary" pneumonias was particularly high. The only death among 14 cases complicating pregnancy occurred in a case in which pneumonia complicated a septic abortion. The mortality among patients with acute alcohol intoxication or who had delirium tremens in the course of their pneumonia was also comparatively low.

Archives of Dermatology and Syphilology, Chicago

43:223-434 (Feb.) 1941

- Keratosis Follicularis (Darier's Disease): Vitamin A Deficiency Disease. S. M. Peck, L. Chargin and H. Sobotka, New York.—p. 223.
Dietary Treatment of Scaly Desquamative Dermatoses of Seborrheic Type: I. Experimental Foundation. P. György, Cleveland.—p. 230.
Dermatitis Herpetiformis: Influence of Age on Incidence and Type of Lesions. M. H. Goodman, Baltimore.—p. 248.
Occupational Dermatitis in Cigar Makers Due to Contact with Tobacco Leaves: Report of Three Cases. F. Vero, New York, and S. Genovese, Danbury, Conn.—p. 257.
Wetting Agents: New Synthetic Chemicals of Use in Finer and More Efficient Topical Dermatologic Therapy. W. W. Duemling, Fort Wayne, Ind.—p. 264.
Lupus Erythematosus Papularis et Nodularis. S. Irgang, New York.—p. 281.
Toilet Soaps, Soap Substitutes and Hard Water: Study of Various Combinations by Patch Tests. H. J. Parkhurst, Toledo, Ohio.—p. 299.
Comparative Study of Serologic Tests for Syphilis. L. Hollander, C. L. Schmitt and Clara R. Schlesinger, Pittsburgh.—p. 311.
Laughlin Test for Syphilis. J. F. Stecker, P. H. Greep and E. I. Paul, Toronto.—p. 317.
Adequate Diagnosis of Infantile Congenital Syphilis. N. R. Ingraham Jr., B. Shaffer, Barbara E. Spence and J. H. Gordon, Philadelphia.—p. 323.
Action of Dihydroxycholesterol in Chronic Pemphigus. W. F. Lever and J. H. Talbott, Boston.—p. 341.
Leukoderma Acquisitum Centrifugum: Report of Case in Which Central Nevi Were Destroyed and the Leukodermic Halos Then Treated with Ultraviolet Radiation in Attempt to Restore Pigment. H. D. Niles, New York.—p. 357.
Localized Scleroderma with Bullae. H. J. Templeton, Oakland, Calif.—p. 361.
Cold Allergy and Cold Pathergy. E. Urbach, M. F. Herrman and P. M. Gottlieb, Philadelphia.—p. 366.
Circumscribed Myxedema: Report of Two Cases. H. J. Schwartz, New York, and R. F. Maddren, Hackensack, N. J.—p. 375.

Canadian Public Health Journal, Toronto

32:1-48 (Jan.) 1941

- Clinical Aspects of Epidemic of Human Encephalomyelitis in Saskatchewan in 1938. U. Garreau, Regina, Sask.—p. 1.
Relation of Equine Encephalomyelitis to Epidemic of Human Encephalitis in Saskatchewan in 1938. J. S. Fulton, Saskatchewan, Sask.—p. 6.
Tuberculosis Control in the Indian Population of Canada. P. E. Moore, Ottawa, Ont.—p. 13.
The General Practitioner and Venereal Disease Control in Urban Centers. L. A. Pequegnat, Toronto.—p. 18.
Plague Surveys in Western Canada. R. J. Gibbons and F. A. Humphreys, Ottawa, Ont.—p. 24.
Study of Methods for Detection of Presence of Coliform Organisms in Water: Report of the Committee on Bacteriologic Examination of Water and Sewage: Laboratory Section, Canadian Public Health Association. N. J. Howard, A. G. Lochhead and M. H. McCrady.—p. 29.

Georgia Medical Association Journal, Atlanta

30:1-40 (Jan.) 1941

- Evaluation of Diagnosis and Treatment of Varicose Veins. C. E. Rushin, Atlanta.—p. 1.
Tuberculosis in Children. R. F. Mikell and C. M. Sharp, Alto.—p. 5.
Tularemia Pneumonia: Report of Case. P. O. Chaudron, Cedartown.—p. 11.
Multiple Sclerosis in a Mental Defective: Report of Case with Serial Sections of Brain and Cord. Myrtelle M. Canavan, Boston, and J. D. Maloney, Waverley, Mass.—p. 14.
Nasal Gavage in Tetanus Neonatorum and Other Serious Diseases of Infants: Report of Cases. H. B. Jenkins, Donaldsonville.—p. 18.
Ruptured Primary Jejunal Ulcer. L. W. Williams, Savannah.—p. 21.

Iowa State Medical Society Journal, Des Moines

31:51-92 (Feb.) 1941

- Nonspecific Protein Therapy in Ocular Disease. T. E. Sanders, St. Louis.—p. 51.
Fundus in Hypertensive Vascular Disease. P. J. Leinfelder, Iowa City.—p. 55.
Treatment of Ocular Phobias. A. M. Dean, Council Bluffs.—p. 57.
*Exsanguination: Classification and Analysis of Thirty-Three Cases. W. H. Missildine, Eagle Grove.—p. 59.
Subacute Bacterial Endocarditis. M. T. Morton, Estherville.—p. 65.

Exsanguination.—Missildine discusses 33 cases of exsanguination from the point of view of recent advances in this field. The material was collected from about a thousand post-mortem examinations. Ten of the cases were due to trauma (usually automobile accidents), 4 to a malignant condition, 3 were postoperative, 3 were due to nonsyphilitic rupture of blood vessels, 2 each to postoperative jaundice, obstetric shock, blood dyscrasias, gastric ulcer and syphilitic aortitis and 2 each to suicide, tuberculosis and ruptured esophageal varix. Each type of case is considered separately. No matter how well hemorrhage is controlled, if the fluids given the patient leak out into the tissues instead of remaining in the circulation the

patient remains in shock. Even if the circulating volume is restored by fluids which remain in the circulation, they will not be life saving if the source of the bleeding is not controlled. Seven patients of the entire group who were most intensively treated lived an average of fourteen hours after hemorrhage began, and an average of 1,250 cc. of blood was lost. They received an average of 2,100 cc. of crystalloid fluid (5 per cent dextrose in physiologic solution of sodium chloride) and an average of only 200 cc. of blood. It is stated that adequate treatment has not been carried out until at least 80 per cent of the lost blood is replaced by whole blood or blood serum. Crystalloid solutions are no substitute. When untyped pooled human serum is proved innocuous, every hospital should always have it on hand for emergency use; then cases of hemorrhage can be treated promptly and much more effectively than they have been in the past.

Journal of Allergy, St. Louis

12:117-220 (Jan.) 1941

- Antigenic Fractions in Ragweed Pollen: I. Water-Soluble Fractions. A. Stull, W. B. Sherman and S. F. Hampton, New York.—p. 117.
- Acquired Specific Hypersensitivity to Simple Chemicals: VI. Further Studies on Purification of Dyes in Relation to Allergic Reactions. M. B. Sulzberger and R. Hecht, New York.—p. 129.
- Results of Skin Tests Following Immunization Against Encephalomyelitis (Eastern and Western Types) with Bivalent Vaccines of Chick Embryo Origin. H. Gold and B. Hampill, Glenolden, Pa.—p. 138.
- Sensitivity to Casein in Infantile Eczema Confirmed by Biologic Titration of Testing Extract. L. W. Hill and H. N. Pratt, Boston.—p. 143.
- Allergy to Pancreatic Tissue Extract: Report of Two Cases. L. H. Crip, Pittsburgh.—p. 154.
- Skin Reactions: X. Preseasonal Treatment of Hay Fever by Electrophoresis of Ragweed Pollen Extracts into Skin: Preliminary Report. H. A. Abramson, New York.—p. 169.
- Studies with Antigens: III. Preparation of Purified House Dust Extract. C. H. Boatner, B. G. Efron and R. I. Dorfman, New Orleans.—p. 176.
- First Report on Hay Fever in Palestine. M. J. Gutmann, Jerusalem, Palestine.—p. 182.
- Tetanus in Serum-Sensitive Patient Successfully Treated with New Despecced Antiserum. M. Schaeffer and G. B. Myers, Detroit.—p. 188.

Journal of Bone and Joint Surgery, Boston

23:1-224 (Jan.) 1941. Partial Index

- *Calcification and Ossification: I. Calcification in Callus in Healing Fractures in Normal Rats. M. R. Urist, Baltimore, F. C. McLean, Chicago.—p. 1.
- Microscopic Changes After Internal Fixation of Transcervical Fracture of Femur. J. Kulowski, St. Joseph, Mo., and J. V. Luck, Los Angeles.—p. 17.
- Pseudoplatybasia: Rupture of Transverse Ligament of Axis with Displacement of Odontoid Process and Compression of Cervical Cord. L. J. Wade, New York.—p. 37.
- *Conservative Compensation-Derotation Treatment of Scoliosis. A. Steindler, Iowa City; in collaboration with C. W. Ruhlin.—p. 67.
- Treatment of Gas Gangrene Experimentally Produced. G. A. Caldwell, New Orleans.—p. 81.
- Surgical Approach to Proximal End of Radius and Its Use in Fractures of Head and Neck of Radius. E. B. Kaplan, New York.—p. 86.
- Spinal Extradural Cyst Associated with Kyphosis Dorsalis Juvenilis. L. J. Adelstein, Los Angeles.—p. 93.
- Some Orthopedic Relationships of Neurofibromatosis. B. H. Moore, Chicago.—p. 109.
- Ununited Fracture of Neck of Femur Treated by High Oblique Osteotomy. R. S. Reich, Cleveland.—p. 141.
- Autosynostosis as Simple Method of Shortening Bone. S. Kofmann, Odessa, Soviet Union.—p. 159.
- Radiation Treatment of Ganglions of Wrist and Hand. F. M. Lyle, Chicago.—p. 162.

Calcification in Callus in Healing Fractures.—Urist and McLean studied microscopically the healing processes of the fractures of fifteen litters of normal rats. The right tibias were fractured at 7 weeks of age and allowed to heal for varying periods of time. The first reaction to the injury is a sterile inflammation as a consequence of the trauma and hemorrhage. At from four to eight hours after the bone is broken the defect is filled and surrounded by extravasated blood, hemorrhagic debris and inflammatory exudate, including leukocytes. At twenty-four hours there is reparative new formation of connective tissue (fibrocartilaginous callus), which continues to proliferate and to form dense fibrous connective tissue. A part of this differentiates to form hyaline cartilage and fibrocartilage. As these changes take place, new bone begins to form under the periosteum and endosteum at some distance from the fracture line. This new bone invades and replaces the fibrocartilaginous callus and leads to bony union at about the twenty-fourth day. The reparative process as

a whole is an example of organization of diverse means to a common end—healing of the fracture by bony union. The progress of calcification has been observed by impregnation of undecalcified sections with silver nitrate. Bone matrix is formed subperiosteally and subendosteally, first at some distance from the fracture line, at about the second or third day following a fracture. It is calcified as it is laid down under optimal conditions with no appreciable interval between its formation and the deposition of bone salt within it. The new matrix is calcifiable as soon as it is recognizable as osseous tissue. A lag in calcification of newly formed osseous tissue may occur, because of failure in the supply or transport of bone minerals rather than to lack of calcifiability in the bone matrix. The matrix of hyaline cartilage becomes calcifiable when the adjacent cartilage cells become vesicular or hypertrophic. The calcification is further conditioned by its relationship to the bone tissue invading the fibrocartilaginous callus. Only matrix in contact with the invading bone calcifies. Only tissues recognizable as bone matrix or cartilage matrix calcify in the callus.

Compensation-Derotation Treatment of Scoliosis.—Steindler and Ruhlin present the results of 100 cases of scoliosis treated by the compensation-derotation method five or more years ago. The method consists of equilibration of the pelvis, elimination of weight stress, mobilization of the spine and development of muscle tone. The authors' criteria for muscle sufficiency are equal standing and recumbent lengths of the thorax, diminished distensibility of the spine, active permanent maintenance of posture without effort and restoration of a normal sense of thoracic equilibrium. The compensation-derotation treatment is adequate when the following conditions are present: (1) complete lumbar compensation of a thoracic primary curve with horizontal pelvis and horizontal fifth lumbar vertebra, (2) complete lumbar compensation of the thoracic primary curve with horizontal pelvis but oblique fifth lumbar, (3) a short and moderate thoracic curve with a straight upper and straight lumbar spine and (4) a primary lumbar curve, with a horizontal pelvis and a horizontal fifth lumbar. The method is not indicated in (1) all paralytic cases, (2) severe cases with rigid lumbar spines of all ages and types, (3) all scolioses with oblique pelvis except those of patients close to the completion of growth, (4) all high thoracic or cervicothoracic curves and (5) congenital scoliosis with oblique pelvis and oblique fifth lumbar vertebra. Of the authors' 100 patients 80 were treated conservatively and 20 were operated on. At examination 64 had mobile and 36 rigid spines. At the time spontaneous compensation had occurred in 30; 24 were habitual, 3 congenital, 2 rachitic and 1 paralytic. Complete compensation was obtained by treatment in 50, incomplete or no compensation in 20. Nine of the failures were cases of paralysis indicating an error in selection. Of the 20 cases which could not be adequately compensated, only 1 held; the others failed. All cases of spontaneous compensation held in the presence of good musculature. No attempt was made to correct the primary curve except in 5 cases in which compensation was finally lost and failed because of inadequate musculature; the rest were kept under careful observation, proper support and development of the musculature and remained compensated. Paralytic and severe structural nonparalytic scolioses (not considered in this discussion) did not respond to conservative treatment; the spines had to be fused. Of 21 patients treated conservatively by the combined derotation-compensation method with a follow-up of two years or more, 4 were compensated on admission and were treated by support and muscle development and they maintained the correction. For the 17 not compensated on admission and treated by manipulative correction, derotation, muscle development and support an average of eight months was required for complete compensation. Of these 17, only 1 patient with a congenital scoliosis and a hemisacralization of the fifth lumbar vertebra failed to respond. Therefore the correction held in 20, or 95 per cent, of 21 patients. The improvement over the previous series is due to the better selection of cases. Attempts to correct the thoracic deformity by rotation to the concave side are preposterous. Derotation is directed toward the lumbar and cervico-

thoracic section of the spine. Compensation-derotation and adequate muscle development promise success in the majority of all nonparalytic cases. Adequate compensation-derotation and fusion in the presence of inadequate musculature promises success in all paralytic and many congenital cases.

Journal of Experimental Medicine, New York

73:161-308 (Feb.) 1941

- Cirrhosis of Liver Caused by Excess Dietary Cystine. D. P. Earle Jr. and J. Victor, New York.—p. 161.
- Occurrence During Acute Infections of Protein Not Normally Present in Blood: I. Distribution of Reactive Protein in Patients' Serums and Effect of Calcium on Flocculation Reaction with C Polysaccharide of *Pneumococcus*. T. J. Abernethy and O. T. Avery, New York.—p. 173.
- Id.: II. Isolation and Properties of Reactive Protein. C. M. MacLeod and O. T. Avery, New York.—p. 183.
- Id.: III. Immunologic Properties of C-Reactive Protein and Its Differentiation from Normal Blood Proteins. C. M. MacLeod and O. T. Avery, New York.—p. 191.
- Studies on Mechanism of Recovery in Pneumococcal Pneumonia: I. Action of Type Specific Antibody on Pulmonary Lesion of Experimental Pneumonia. W. B. Wood Jr., Boston.—p. 201.
- Studies on Photo-Oxidation of Antigen and Antibodies. H. Smetana, New York, and D. Shemin, Uppsala, Sweden.—p. 223.
- Röntgen Radiation of Papilloma Virus (Shope): I. Effect of X-Rays on Papillomas of Domestic Rabbits. J. T. Syverton, R. A. Harvey, G. P. Berry and S. L. Warren, Rochester, N. Y.—p. 243.
- Action of Synthetic Detergents on Metabolism of Bacteria. Zelma Baker, R. W. Harrison and B. F. Miller, Chicago.—p. 249.
- Uterine Adenomas in Rabbit: III. Susceptibility as Function of Constitutional Factor. H. S. N. Greene, Princeton, N. J.—p. 273.
- Quantitative Experiments with Antibodies to Specific Precipitates: H. P. Treffers and M. Heidelberger, New York.—p. 293.
- Origin of Platelets: Their Behavior in Heart-Lung Preparation. E. Fidler and E. T. Waters, Toronto, Canada.—p. 299.

Journal of Lab. and Clinical Medicine, St. Louis

26:597-756 (Jan.) 1941

- Phytotoxic Reactions of Some Blood Serums, with Biometric Analyses. D. I. Macht and M. B. Macht, Baltimore.—p. 597.
- *Sulapyridine in Experimental Brucellosis. E. S. King and Margaret Lucas, Wake Forest, N. C.—p. 616.
- Changes in Sedimentation Rate and Nonfilament-Filament Ratio Following Clinical Improvement in Patients with Low Grade Chronic Illness: Statistical Analysis of 323 Cases. M. H. Stiles, Philadelphia.—p. 621.
- Bronchiectasis Associated with Monilia Simulating Pulmonary Tuberculosis: Clinical-Pathologic Study. E. R. Wiese, White Haven, Pa., and E. W. Bixby, Wilkes-Barre, Pa.—p. 624.
- Primary Malignant Tumors of Spleen: Report of Case of Lymphosarcoma. C. W. Bonney, Philadelphia.—p. 630.
- Comparison of Hinton, Kahn, Kline and Mazzini Tests for Syphilis. E. L. Breazeale, R. A. Greene and H. B. Harding, Tucson, Ariz.—p. 637.
- Bacteriologic Diagnosis in Gonorrhea of Male. A. Gronau, St. Louis.—p. 643.
- Experimental Thrombocytopenic Purpura in Guinea Pig. M. E. Leonard and E. H. Falconer, San Francisco.—p. 648.
- Depressor Effect of Potassium Sulfoeyanate Before and After Bilateral Splanchicotomy in Normal and Hypertensive Dogs. L. Davis and M. H. Barker, Chicago.—p. 658.
- Acid-Base Balance and Water Concentration of Blood During Toxemias of Late Pregnancy. F. W. Oberst, Lexington, Ky., and E. D. Plass, Iowa City.—p. 664.
- Effect of Diet on Arterial and Venous Glucose Tolerance Curves in Rheumatoid Arthritis. K. R. Andrews and R. O. Muether, St. Louis.—p. 675.
- Variations in Composition of Gastric Juice: Influence of Protein on Acidity and Pepsin. M. J. Matzner, C. Windwer, O. Gawron and A. E. Sobel, Brooklyn.—p. 682.
- Critical Survey of Phenolphthalein Test for Gastrointestinal Lesions. N. E. Reich, Brooklyn.—p. 687.

Sulapyridine in Experimental Brucellosis.—King and Lucas infected three groups of normal healthy guinea pigs with *Brucella suis*, *Brucella melitensis* and *Brucella abortus* organisms. The dose of organisms used was one half of a beef liver infusion agar slant culture. Each group of injected animals was divided into four subgroups and the subgroups were treated as follows: One was given 100 mg. of sulapyridine daily by mouth one and one half hours after the injection of the organisms, one 200 mg. six days after injection, one 100 mg. subcutaneously six days after injection, and the last group served as a control. All treatment ended twenty-one days after injection when a necropsy was performed on all the animals except half of each subgroup receiving 200 mg. These were held for twenty-one days longer to determine whether a flare-up occurred when the drug was discontinued. During treatment all animals looked fairly normal except a few that appeared sick, some of which died. The greatest mortality rate occurred in the *Brucella suis* group. At necropsy the abdominal organs were observed for obvious

pathologic change. In some animals gross evidence of disease was obvious, as small abscess-like lesions were seen on the surface of the liver. In some animals tough, exudative adhesions were present between the intestine and liver, liver and abdominal wall and intestine. The size of the liver and spleen generally did not exceed the normal. The results of the experiments showed only a slight preventive or curative effect. However, in the group of animals receiving 200 mg. of the drug no animals showed pathologic evidence or a positive culture except in the group that was held over for quiescent infection determination, in which the infection was being held under control by the drug and flared up after it was discontinued. The best results with the drug were obtained in *Brucella suis* infections and poorest results in *Brucella abortus*. Among the animals held over for twenty-one days without treatment, heavy infections in both *Brucella suis* and *Brucella abortus* animals were found and negative pathologic and cultural evidence in *Brucella melitensis* animals. In vitro tests showed that 1:1,000 and 1:10,000 concentrations of the drug against *Brucella suis* resulted in complete destruction of the organism. Against *Brucella melitensis* the 1:1,000 concentration showed complete bactericidal power, the 1:10,000 nearly complete killing power. *Brucella abortus* was far more resistant; only the 1:1,000 concentration showed a definite bactericidal effect.

Journal of Urology, Baltimore

45:1-146 (Jan.) 1941

- Some Problems in Management of Urinary Calculi. J. D. Barney and G. E. Jones, Boston.—p. 1.
- Significance of Aneurysm of Abdominal Aorta Masquerading as Primary Urologic Disease: Case Reports. C. A. W. Uhle, Philadelphia.—p. 13.
- Aneurysm of Renal Artery. H. H. Howard, H. I. Suby and J. Harberson, Boston.—p. 41.
- Caliceal Diverticulum. G. C. Prather, Boston.—p. 55.
- *Significance of Hypertension in Prostates with Chronic Urinary Retention. E. W. Campbell, Philadelphia.—p. 70.
- Method of Estimating Size of Prostate Gland. E. L. Peirson and S. A. Wilson, Salem, Mass.—p. 82.
- Diagnostic Pitfalls in Carcinoma of Prostate. C. J. E. Kickham, Boston.—p. 92.
- Angioma of Corpus Cavernosum Penis. S. M. Rabson, New York.—p. 111.
- Effect of Testosterone Propionate on Seminal Fluid in Man. N. J. Heckel and C. R. Steinmetz, Chicago.—p. 118.
- Anesthetic Results in Urogenital Surgery: Report of 2,059 Operations. R. Engel, E. Cushman, H. Livingstone and I. Shank, Chicago.—p. 124.
- *Use of Sulfathiazole as Urinary Antiseptic. H. F. Helmholz, with technical assistance of Nora Larson, Rochester, Minn.—p. 135.

Hypertension, Prostatism and Chronic Urinary Retention.—Campbell determined the value of gradual decompression of the bladder preceding the prostatectomies of 173 consecutive unselected patients. There were 36 patients with acutely distended bladders and 137 with chronic retention. The latter group was composed of 118 patients with a low blood pressure and a group of 19 patients with high pressure (more than 160 mm. of mercury systolic). Analysis of these groups suggested the following disposition with regard to the propriety of decompression: Decompression of the acutely distended bladder can be dismissed, for the changes which must occur are those of physiologic counterbalance dependent on the normal protective mechanism of the urinary tract provided for such an emergency. Many of the patients with a low pressure in the chronic retention group were treated with gradual decompression, because it is the rule for the intern to "decompress when in doubt." The average fall of blood pressure in this group was 18 mm. of mercury. The blood pressure of most of these patients subsided gradually regardless of the institution of decompression, and the blood pressure was stabilized without untoward physical manifestations. Of the 19 patients whose systolic pressure on admission was above 160 mm. of mercury the hypertension of 15 was relieved. It must have been due to the chronic retention of urine. The author believes that gradual decompression is still a valuable procedure and is often a life-saving procedure for the prostatic patient with chronic urinary retention and hypertension. Pyelonephritis, often thought the actual cause of death, is undoubtedly a secondary complication precipitated by the too rapid evacuation of a chronically distended and infected bladder. Hypertension evidently occurs in a small group of prostatic patients because the upper part of the urinary tract is unable to dilate because of an anatomic factor: an intrarenal pelvis.

Sulfathiazole as a Urinary Antiseptic.—Helmholz studied the urinary antiseptic qualities of sulfathiazole and from 2,003 observations, he states that sulfathiazole is bactericidal for the six most common urinary bacteria: *Streptococcus faecalis*, *Staphylococcus aureus*, *Escherichia coli*, *Aerobacter aerogenes*, *Proteus ammoniae* and *Pseudomonas aeruginosa*. A concentration of 200 mg. per hundred cubic centimeters should prove sufficient for the cure of practically all infections except *Pseudomonas*, which will probably require 300 mg. per hundred cubic centimeters. The effectiveness of the drug for the various bacteria on an ascending scale is as follows: *Pseudomonas aeruginosa*, *Streptococcus faecalis*, *Escherichia coli*, *Aerobacter aerogenes*, *Proteus ammoniae* and *Staphylococcus aureus*. The bactericidal range is from 300 to 25 mg. per hundred cubic centimeters. There is some variation in the effect of the drug at various μ n levels, particularly for *Streptococcus faecalis*.

Nebraska State Medical Journal, Lincoln

26:37-76 (Feb.) 1941

Advances in Our Knowledge of Liver Disease and Some Associated Clinical Applications. F. C. Helwig, Kansas City, Mo.—p. 37.
Treatment of Chronic Arthritis with Gold Sodium Thiosulfate. J. C. Thompson and C. K. Elliott, Lincoln.—p. 44.
Significance of Cardiac Enlargement in Progress and Prognosis of Hypertensive Heart Disease. L. Stark, Norfolk.—p. 51.
Hypertensive Heart Disease. A. D. Cloyd, Omaha.—p. 53.
Cardiac Failure and Hypertension: Case Report. J. P. Tollman, Omaha.—p. 56.
Depressions. W. A. Muehlig, Omaha.—p. 58.
Grain Dust as Occupational Hazard: Review. S. S. Pinto, Boston.—p. 60.

New England Journal of Medicine, Boston

224:139-178 (Jan. 23) 1941

Head Injuries: Observations Based on Study of 554 Patients. W. Pickles, Providence, R. I.—p. 139.
*Enterobiasis: Its Incidence and Symptomatology in a Group of 505 Children. T. H. Weller and C. W. Sorenson, Boston.—p. 143.
Congenital Anomalies of Pelvic Adnexa. J. D. Ferrone, Boston.—p. 147.
Physiotherapy in Rheumatoid Arthritis. W. A. Elliston, Marie F. Silber and Dorothy Grover, Boston.—p. 150.
Pedunculated Endometrial Cyst of Uterus: Report of Case. A. A. Levi, Boston.—p. 156.
Abdominal Surgery. A. W. Allen, Boston.—p. 159.

Enterobiasis.—Weller and Sorenson endeavored to determine the incidence of *Enterobius vermicularis* infection in the New England area by examining 505 white children from 2 to 12 years of age admitted to the medical wards (118) or the outpatient department (387) of the Children's Hospital. The patients were consecutive with no attention being paid to age, sex or type of illness. The anal swabs were examined on the same day on which they were obtained. The swabs were never taken before the morning toilet. The symptoms of the 387 outpatients were studied. The blood studies done as a part of the routine medical examination of the 118 ward children were reviewed for any eosinophilia. Among the 505 children examined 97 (19 per cent) were found to have enterobiasis. An analysis of the data showed that the average number of children less than 14 years of age in the families of 91 of the positive cases was 3.1; in the 396 negative cases the average number was 2.2. Additional data showed that for the 91 positive cases the average total family size was 5.5 persons and for the 394 negative children 4.6 persons. Forty-two of the 387 outpatients gave a history of previous pinworm infection, and of these 16 proved to be positive on swab examination. Of the 345 children with no previous history of infection, 56 were positive. In the present series 23 per cent of the girls, and 15 per cent of the boys were infected. Enterobiasis was less common among the younger children. The children with pinworms did not complain of gastrointestinal symptoms more frequently than the uninfected children, with the exception of a slight but not significant variation in "loss of appetite." Likewise, vulvitis and night restlessness occurred with the same frequency. Anal pruritus, perianal cutaneous lesions, enuresis and masturbation were a little more common among the positive group. The variation was not statistically significant. The relatively asymptomatic nature of the infection would appear to indicate that subclinical enterobiasis is a common condition. Of the 72 positive cases among the 387 outpatients 64 per cent had no gastrointestinal symptoms, 80 per cent no perineal symptoms, 58 per cent no nervous symptoms

and 36 per cent none of these three symptoms. This does not mean that the pinworm is incapable of causing symptoms—4 cases showed a symptom complex approximating the classic description of enterobiasis. At least two factors combine to overemphasize the importance of symptoms: the symptoms tend to be misleading and in the past only those patients showing symptoms have been studied. Further work is necessary to determine why some patients have symptoms and others do not. The intensity of infection, the nervous constitution of the infected person and an allergic response to products of the parasite may be important.

Philippine Medical Association Journal, Manila

20:693-756 (Dec.) 1940

Improved Technic for Suprapubic Cystolithotomy. G. Santos-Cuyugan and P. T. Nery, Manila.—p. 693.
Studies on Peptic Ulcer. P. Ignacio and J. A. Silva, Manila.—p. 699.
Differential Diagnosis of Jaundice. H. Kaunitz, Manila.—p. 709.

Texas State Journal of Medicine, Fort Worth

36:591-654 (Jan.) 1941

X-Ray Diagnosis of Diseases of Esophagus. D. Spangler, Dallas.—p. 598.
Fracture of Femur. S. A. Collom Jr., Texarkana.—p. 601.
Recent Progress in Anesthesia. E. A. Roventine, New York.—p. 603.
Management of Calculi in Lower Ureter. J. R. Reagan, Wichita Falls.—p. 608.
*Relationship Between Skin Cancer and Occupation in Texas: Review of 1,569 Verified Lesions Occurring in 1,190 Patients. C. Phillips, Temple.—p. 613.
Carcinoma of Gallbladder. I. L. Van Zandt, Fort Worth.—p. 616.
Compulsory Laboratory Tests. A. M. Clarkson, Austin.—p. 618.
Preoperative Radiation of Breast Cancer. E. V. Powell, Fort Worth.—p. 620.
The Place of Orthoptics in Treatment of Extraocular Muscle Deficiencies. C. R. Lees, Fort Worth.—p. 623.
Glands of Posterior Female Urethra. G. T. Caldwell, Dallas.—p. 627.
Treatment of Chronic Infectious Sinusitis. H. Hosen and F. Tyner, Port Arthur.—p. 633.

Cutaneous Cancer and Occupation.—Phillips reports the particulars of the study carried out by the United States Public Health Service as to the incidence of occupational cutaneous cancer in Texas. The data that he analyzes are those of occupation, as they pertained to 1,190 individuals having 1,569 microscopically verified cutaneous cancers. The cases were obtained from 187,831 registrations of the Scott and White Hospital and the Gulf, Colorado and Santa Fe Railroad Hospital in Temple, Texas, from January 1920 to January 1940. In order of frequency these lesions were found to be basal cell epithelioma, squamous cell epithelioma, melanoma, mixed basal and squamous cell epithelioma, transitional cell epithelioma, adenocarcinoma of the sweat or sebaceous glands, fibroxanthosarcoma and epithelioma in sebaceous cysts. The occupations of the largest group of these patients was outdoor work: farming and ranching. The work of housewives comes next in order, followed by various business activities requiring moderate outdoor life. The professions were next, followed by laborers and carpenters. The railroad and petroleum industries furnished few cutaneous cancers. There were 738 basal cell epitheliomas among 546 patients; 34.7 per cent belonged to the farmer-rancher classification. All but 12.2 per cent of the total were traced as to occupation. The squamous cell epitheliomas accounted for 644 lesions and 596 patients; 49.1 per cent of these patients were either farmers or ranchers. There were 128 housewives in the basal cell group as against 70 in the squamous cell group. The occupation of 15.8 per cent of these patients was not known. Study of 124 persons having 143 melanomas confirms previous observations that occupation apparently has no particular relationship as to etiology and that women are as likely to have the neoplasm as men. Melanoma does not appear to be much stimulated by sunshine. Seventeen patients had 19 cancers of the mixed basal and squamous cell type; 48.5 per cent were farmers and ranchers. There were 19 transitional cell epitheliomas among 16 patients. The incidence for outdoor exposure was 50 per cent. There were 6 carcinomas in the sweat and sebaceous glands and in the hair follicle epithelium; 2 of the patients were farmers and 1 was a rancher. Farmer-rancher occupation amounted to 39.9 per cent of the whole series of 1,190 persons. When farm and ranch housewives are added to that of the farmer-rancher men the figure rises to 46.05 per cent.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

British Journal of Radiology, London

14:43-78 (Feb.) 1941

- Mass Radiography of Chest, et Alia. S. C. Shanks.—p. 45.
Experiments in X-Ray Screen Photography with Control Direct Radiographs. K. C. Clark, G. R. M. Cordiner and P. Ellman.—p. 54.
Effect of Gamma Radiation on Cells in Vivo: Part III. Spaced Radiation. F. G. Spear and A. Glucksmann.—p. 65.
Reflecting Screen Facilitating Removal of Foreign Bodies and Positioning in Radiography. H. Miller.—p. 77.

British Medical Journal, London

1:73-106 (Jan. 18) 1941

- Trends in Nutrition. J. B. Orr.—p. 73.
Pulmonary Concussion ("Blast") Due to High Explosive: Case. G. Hadfield and R. V. Christie.—p. 77.
*Hemorrhage into Lungs in Cases of Death Due to Trauma. Joan M. Ross.—p. 79.
Familial Periodic Paralysis. J. M. Holmes.—p. 80.
Some Public Health Considerations Consequent on a Large Scale Air Raid. A. Massey.—p. 82.
Inoculation with T. A. B. C. Vaccine in Southampton: Analysis of Reactions. H. C. M. Williams.—p. 84.

Hemorrhage into Lungs in Deaths Due to Trauma.—Ross reviews hemorrhagic pulmonary lesions due to trauma that are seen in peacetime. Blood may be inhaled after hemorrhage from lesions of the upper air passages or nasopharynx or even from a fracture of the base of the skull. The lung tissue is undamaged, but in cases in which the inhaled blood is not immediately fatal it will have coagulated. A lacerated wound of the lung associated with hemorrhage may occur after the wall of the chest is penetrated by a sharp object or by a broken rib. The pulmonary appearance varies according to whether the penetrating object or rib remains in the lung while respiration continues and the resultant hemorrhage varies with circumstances. It may spread for some little distance beyond the margins of the wound. Hemorrhagic lesions (contusions or bruises) of the lung may be found in cases which show no penetrating wound of the chest or broken ribs. Such cases are comparatively frequent in road accidents after violent impact of a moving vehicle or when the victim is hurled against a hard obstacle such as a wall. In children it is most often associated with a history of the rapid passage of a wheel over the thorax. The hemorrhagic lesion in the lung takes the form of a contusion or localized bruise. Microscopically there is rupture of the pulmonary tissue and hemorrhage into the damaged area. In another group of cases death may be said to be due to asphyxia. Asphyxia from any cause produces hemorrhagic lesions in the lungs. The lesions consist of punctiform subpleural hemorrhagic patches. These ecchymoses—Tardieu's spots—are sometimes separated, sometimes in groups. In asphyxia due to pressure on the trachea (strangulation) there will be frothy blood-stained mucous fluid in the upper air passages and intense congestion of the lungs, and, in addition to Tardieu's spots, larger patches of hemorrhage may be present. The lungs of patients dying of fat embolism following crushing injuries are typically deeply congested throughout with no localized hemorrhagic patches. These hemorrhagic lesions seen in peacetime are compared to lesions produced as the result of the detonation of high explosives. Flying missiles produce penetrating wounds of the chest and lacerated wounds of the lung which differ in no way, except in degree, from peacetime penetrating lesions. Impact damage from these missiles or forcible hurling of the victim by the force of the explosion (blast) may produce contusions of the lung similar to those of road accidents. These contusions may be present without visible external injury. Cases of asphyxia are frequent under bombing conditions, when persons may be buried under debris. Dust may have been inhaled or the victim may have been pinned under a pile of debris. In the former group the postmortem observations are those of asphyxia only. In the other group the picture is that of compression asphyxia. In these cases death has presumably been slow, with attempts at

respiration. In such conditions rib markings have been observed; a dark purple line of the size and direction of the rib. In addition these cases showed some scattered hemorrhages into the lung, with subpleural Tardieu's spots. There are localized areas of collapse. Microscopically there is disruption of the alveolar walls when the rib marking has been sectioned. There is fresh blood in the alveoli, and clotting may have begun in some areas. Elsewhere there is general congestion of all the capillaries in the alveolar walls and thromboses in the smaller arterioles and veins. Edema is present in many areas. Another group of wartime injuries without parallel peacetime lesions is that in which death occurred without or with only trifling external injury, but in which intrapulmonary hemorrhage is common. These cases are found near the site of explosion. The condition may well be called "hemorrhagic pulmonary concussion." When these pulmonary lesions have been found and there have been external markings of small splinters and the like, the superficial lesions are on the anterior surface of the body. The hemorrhagic areas are scattered through and the two lungs are affected to the same degree. Edema as in compression asphyxia is not a feature. Thromboses are not present. Further, the hemorrhage is fresh and clotting has not occurred. There is widespread and intense capillary congestion in the lungs. There is hemorrhage into the walls of the small bronchioles but no bleeding into the walls of the bronchi. There is some overdistention of air vesicles and respiratory bronchioles in some cases with no anatomic relation to the ribs. It is not known how many victims of air raids, dying with gross fatal injury, apparent externally, show the foregoing pulmonary lesions. The lesions are distinct from heretofore familiar conditions. They are distinguishable from lesions of compression asphyxia or pulmonary hemorrhage from impact of solids against the thoracic wall.

Edinburgh Medical Journal

48:73-144 (Feb.) 1941

- War and Skin Disease. G. H. Percival.—p. 73.
Cause and Treatment of Lethal Factors in Burns. W. C. Wilson.—p. 85.
Modern Methods of Treating Lung Tuberculosis. C. Cameron.—p. 94.
Spread of Tuberculous Infection in the Child and Its Relation to Disease in the Adult. W. T. Munro.—p. 115.

Journal of Mental Science, London

87:1-156 (Jan.) 1941

- Recent Advances in Etiology and Treatment of Neurosyphilis. E. L. Hutton.—p. 1.
Occurrence and Significance of Small Vascular Lesions in Brain. F. A. Pickworth.—p. 50.
Subacute Combined Degeneration of Unknown Origin with Extensive Involvement of Brain. R. E. Hemphill and E. Stengel.—p. 77.
The 1916 Stanford Binet Vocabulary Test Revised for Rapid Routine Practice. M. B. Brody.—p. 88.
Some Observations on Sodium Amytal Experiments: Preliminary Report. F. Reitmann.—p. 96.
Syphilis in Old Age. L. T. Hilliard and B. H. Kirman.—p. 101.
Psychoses in Officers in the 1914-1918 War. H. Baird.—p. 109.

Journal of Physiology, Cambridge

99:157-264 (Jan.) 1941. Partial Index

- Influence of Sympathetic Nervous System on Capillary Permeability. D. Engel.—p. 161.
Effect of Adrenalin on Nerve Action Potentials. E. Bülbring and D. Whitteridge.—p. 201.
Utilization of Fat by Aglycemic Mammalian Heart. E. W. H. Cruickshank and H. W. Kosterlitz.—p. 208.
Vasodilator Action of Potassium. G. S. Dawes.—p. 224.
Effect of Adrenalectomy on Blood Histamine of Rabbits. A. Wilson.—p. 241.
Distribution of Pituitary Antidiuretic Hormone Throughout Vertebrate Series. H. Heller.—p. 246.

South African Medical Journal, Cape Town

15:21-40 (Jan. 25) 1941

- Primary Infective Polyneuritis. B. F. Sampson.—p. 23.
Tuberculous Infection in Dermoid Cyst of Ovary: Case. G. D. Shaw and O. S. Heyns.—p. 25.
Cases from Surgical Unit, University of Witwatersrand, Johannesburg: Case of Simple Tumor of Upper Jaw. L. E. Gellman and J. F. P. Erasmus.—p. 28.
Series of Cases of Murine Type Typhus in Northern Rhodesia: Preliminary Report. J. H. Dowds.—p. 30.

Difesa Sociale, Rome**19:825-902 (Sept.) 1940. Partial Index**

*Relations Between Pulmonary Tuberculosis and Menstruation: Clinical and Statistical Study. M. Valli.—p. 825.

Pulmonary Tuberculosis and Menstruation.—Valli made observations on 1,000 women with pulmonary tuberculosis and normal menstrual function. Menstruation appeared at the age of 14 in the majority of cases, before 10 in 2 and after 19 in 2. There was no relation between the age of the patient at the appearance of menstruation and the more or less acute onset and severity of tuberculosis, with the possible exception of women who began to menstruate late. In the latter group the number of grave cases was greater. Amenorrhea was the most frequent irregularity. It was improved when the tuberculous process improved. Fever, especially premenstrual, hemoptysis and focal reactions were the most frequent disorders observed during menstruation. Menstrual fever was frequent in women with grave forms of pulmonary tuberculosis. Fever was the only symptom in half the number of patients in the febrile group. In the other half it was combined with transient focal reactions which aggravated the pulmonary disease and the general conditions of the patients in 23. Hemoptysis occurred in 82 patients, either in the presence or in the absence of fever. Acute bronchogenic tuberculous dissemination of the disease took place in 19. Headache, nausea, vomiting, abdominal and lumbar pain and fast pulse were observed in 112. The author has previously reported that the resistance of the body diminished during menstruation in tuberculous women, as manifested by the variations in tuberculin allergy, increased sedimentation speed of the erythrocytes and increased tuberculous bacilleemia during menstruation.

Deutsche medizinische Wochenschrift, Leipzig**66:1177-1204 (Oct. 25) 1940**

- Vitamin C and Clinical Experience. H. Rietschel.—p. 1177.
*Question of "Angioneurotic Hematuria" in Young Men with Unstable Vasomotor System. H. A. Heinsen.—p. 1181.
*Early Diagnosis and Treatment of Addison's Disease. A. Dzsinich.—p. 1183.
Case of Intermittent Dyspraxia and Dysphonia. P. Duus and H. R. Frank.—p. 1185.
*Prognosis of Ulcerative Colitis. N. Henning.—p. 1187.
Is the Polarographic Method Specific for Recognition of Carcinoma? E. Chytrek.—p. 1190.
Meningitis Caused by Bacterium Enteritidis Gärtner. J. Meyer-Rohn.—p. 1193.
Significance of Sternal Puncture in Differential Diagnosis of Lead Poisoning. A. Bentsath and S. Varga.—p. 1194.

"Angioneurotic Hematuria" in Young Men.—In the course of examining two thousand young men for aviation service, Heinsen observed that three hundred and fifty had a microscopically demonstrable hematuria. This number included neither those with massive hemorrhages nor those in whom notable amounts of protein, casts or leukocytes in addition to erythrocytes indicated a nephritis, pyelitis or inflammation of the urinary passages, but only those in whom the microscopically demonstrable hematuria was the only abnormal sign. The hematuria was slight. Some of these young men were repeatedly examined. In many instances subsequent tests failed to disclose a hematuria and urologic examination disclosed no organic defects that could explain the hematuria. The author cites factors indicative of a hematuria on a vasomotor basis. Nearly all the young men whose urine contained erythrocytes were hardly 20 years old, and about two thirds had the signs of hyperirritability of the vasomotor system, such as hyperhidrosis, coarse tremor and severe dermatographism. The fact that the physical examination was of vital importance for the career of these young men made them even more excited. An analogy is presented by polyuria nervosa spastica occurring in easily excitable persons and by the "urine flood" following an attack of migraine. Just as a decrease in the tonus of vasoconstrictive nerves can lead to polyuria as the result of increased blood perfusion of the kidney, hyperemia may cause stasis and diapedesis. He presumes that great instability of the vasomotor nervous system is the cause of hematuria in these otherwise healthy young men. Their kidneys are not diseased and their vasolability is physiologic rather than pathologic. The author warns against including all microscopic hematurias in young persons in the category of "angioneurotic hematuria." Every

hematuria must be regarded as a serious symptom and subject to careful urologic examination. Only if organic changes can be definitely excluded and other factors suggest a vasomotor basis should angioneurotic hematuria be considered.

Diagnosis and Treatment of Addison's Disease.—Recognition of a fully developed Addison's disease is comparatively simple, but the diagnosis of early and latent forms, as well as the exclusion of other diseases, is difficult. This difficulty, according to Dzsinich, is due to the fact that the symptoms of incipient adrenal insufficiency are meager and insignificant and that functional tests are not sufficiently exact to enable one to detect a beginning adrenal insufficiency. Differential diagnosis is made possible by the detection of the objective symptoms: severe emaciation, weakness, low blood pressure, low blood sugar, subnormal temperature, circulatory changes, brown discoloration of the skin, severe gastrointestinal disturbances and disturbances in the sexual life. These symptoms are not always present in the incipient stage and some of them are present in other disorders. Pigmentation which together with disturbances in the carbohydrate metabolism and hypotension is one of the most characteristic symptoms of chronic adrenal insufficiency, is found also in carcinoma of the abdominal organs, anemias, leukemias, cirrhoses, chronic intoxications (silver, arsenic) and avitaminoses. The author cites facts which prove that the hormone of the adrenal cortex plays an important part in the water, mineral, protein, carbohydrate and fat metabolisms of the organism. The examination of these interrelations is difficult for the practitioner. The author suggests that all provocative tests be made in hospitals because they may elicit crises. Withdrawal of sodium chloride is a test which usually results in exacerbation, but the fact that some tolerate this test well makes it less reliable. Another test is a diet with a high potassium content; this likewise intensifies the symptoms of Addison's disease. For the treatment of the disease the author recommends large doses of adrenal cortex extract and infusion of hypertonic solution of sodium chloride, to which sodium citrate (0.5 per cent) and dextrose solution (10 per cent) may be added. He also gives vitamin C, alkaline substances and a diet deficient in potassium. The treatment must be individualized. When it can be demonstrated that syphilis is the cause, antisyphilitic treatment is indicated. Surgical interventions on patients with Addison's disease are no longer as hazardous as they were formerly, when even extraction of a tooth could be fatal. The author prepares his patients for the operation with a course of intense treatment.

Prognosis of Ulcerative Colitis.—Henning points out that ulcerative colitis is always a serious disease whose prognosis requires caution, particularly in view of the unpredictable complications. Although small hemorrhages in the form of mucosanguineous stools are present in all cases, massive hemorrhages, particularly if they are recurrent, may be fatal. Perforation with fatal peritonitis and paralytic ileus of the entire colon with peritonitis are rare complications. Frequent sequels are the cicatricial changes, which may be localized or diffuse. The localized lesions may give the impression of stenosis, which usually forms in the sigmoid or rectum. Gallart Mones regards rectal stenosis as one of the most frequent complications. If the shrinking process is diffuse, the lumen may become small and the haustra may disappear. There may even be shrinkage in length. Pericolitic, perisigmoiditic and periproctitic abscesses are rare complications. Colonic polyps concur with colitis, but the author asserts that the inflammatory pseudopolyps may completely disappear with improvement of the colitis. Secondary anemia, rheumatoids, neuritis, sepsis with endocarditis, suppurating parotitis and acute yellow atrophy of the liver are some of the remote complications. As a rare complication in his own material the author mentions multiple thromboses in the extremities and cerebral embolism with hemiplegia. Even if there are no complications, the disease has unpredictable fluctuations. Certain general clinical aspects furnish some prognostic hints. Although the fever at the onset of an acute case is of no significance, an unfavorable prognosis is indicated if it does not subside after suitable treatment has been continued for from four to six weeks. The same applies to loss of weight, exsiccosis, tachycardia, anemia and severe prostration. The endoscopic aspects are of some value even though they do not disclose the entire extent of the lesion. Extensive and deep ulcerations with

fibrin, pus and pseudopolyps require more restraint in evaluation than do the flat erosions. The author differentiates between anatomic and functional cure. Retroscopic examinations disclose that complete anatomic cure is unusual. Roentgenoscopy provides reliable prognostic information about the extent of the ulceration. Cases in which the process involves large portions of the colon have a more unfavorable prognosis than have those in which the ulcerations are limited to the rectum. Cases in which the ascending colon is involved have a mortality of 50 per cent (Snapper, Lockhart-Mummery and the author's observations). The prognosis in many cases of ulcerative colitis is to a great extent determined by the treatment. Early and persistent treatment in the form of bed rest and a mixed diet without roughage often restores the patients to such an extent that they become able to work again. The author cites statistics on the mortality and thinks that the great differences between the figures are due to the composition of the case material.

Bulletin of the Naval Medical Association, Tokyo

29:751-832 (Nov. 15) 1940. Partial Index

*Diagnostic Significance of Serum Reactions in Malaria. T. Miyagi.—p. 788.

*Urinary Excretion of Vitamin B₁ in Beriberi Patients. I. Ishihara.—p. 804.

Serum Reactions in Malaria.—Miyagi reports the results of serum reactions in 27 cases of tertian malaria, 17 plasmodium carriers, 110 cases of cured malaria and 141 healthy subjects. The reactions tested are (1) the melanoflocculation test of Henry, (2) the fibrin test of Livieratio, Vagliano and Kokaraki and (3) the congo red test of Ishioka and Akashi. The Henry reaction was positive in 80.4 per cent of active cases of tertian malaria, while the congo red test gave 80 per cent positive reactions. In chronic cases the percentage of positive reactions was somewhat lower (47.1 per cent for Henry's reaction and 52.9 per cent for the congo red test). As a rule the patients who had had splenomegaly gave positive reactions to these tests. The author expresses the opinion that the tests are not specific immune reactions but merely the phenomena of altered colloid stability.

Urinary Excretion of Vitamin B₁.—Employing the thiochrome method of Otto and Rühmekorb, Ishihara made quantitative determinations of urinary excretion of vitamin B₁ in 37 patients suffering from beriberi. This method, by use of a Pulfrich photometer, can be easily carried out in the average laboratory. The amount of the vitamin excreted was calculated for twenty-four hours. In beriberi patients the author found the average daily excretion of vitamin B₁ to be 50 micrograms or less, but increasing when these patients received a diet rich in this vitamin. In spite of the persistence of clinical manifestations, the daily excretion increased to 300-400 micrograms. From these observations it may be said that a low urinary excretion of vitamin B₁ is diagnostic of either active or latent beriberi.

Journal of Oriental Medicine, Mukden, Manchukuo

32:443-594 (March) 1940. Partial Index

*Statistical Studies on Genitourinary Tuberculosis. A. Okada.—p. 491.

Genitourinary Tuberculosis.—Okada reports the results of cystoscopies in 165 cases of urogenital tuberculosis. The greater number of patients (93 per cent) showed definite changes of the bladder mucosa at the urethral orifice, followed in order by the pathologic condition in the trigon, lateral wall, posterior wall, neck, fundus and the anterior wall. No relationship seemed to exist between the sex or the side of the diseased kidney and the extent of bladder disease. The bladder capacity appeared to decrease in direct proportion to the extent of the disease. In all cases, irrespective of the degree of disease, the earliest manifestations of the disease were frequency of micturition and pain on urination. Hematuria and lumbar pain were less frequent. In mild cases pyuria was also frequent. With the increase in cystoscopic signs, the degree of positive findings on palpation of the bladder also increased. No definite relation, however, was observed between the cystoscopic findings and the presence or absence of genital tuberculosis. The ease with which the urethral catheter could be inserted decreased with the progress of the bladder disease. Chromocystoscopy showed a delay on the affected side as compared with the normal side; the excretion of indigo carmine was evident in ten minutes from the healthy side in 93.8 per cent of cases, whereas from the affected side

the appearance of the dye was delayed beyond ten minutes in 51.4 per cent. The amount of phenolsulfonphthalein excreted from the normal side in fifteen minutes was over 15 per cent in 85.3 per cent of cases, while it was less than 15 per cent in 70.7 per cent of cases. Catheterized urine collected from the affected side was turbid and contained pus clumps, albumin and tubercle bacilli. The study includes roentgenographic examination of the genito-urinary tract by intravenous and retrograde pyelocystography. The specific gravity of the urine, determined after intravenous pyelography and compared with the phenolsulfonphthalein test, in conjunction with roentgenographic examination, were found to be valuable in estimating the total renal function. The cystogram, however, was useful only in cases with moderately advanced tuberculosis of the urogenital system. By the combination of all these methods positive diagnoses were established in 139 cases of unilateral tuberculosis of kidney, 34 of bilateral involvement and 2 of tuberculosis of the bladder, while in 20 cases the affected side eluded diagnosis. Of the unilateral kidney tuberculosis, 79.8 per cent of the cases were found to be operable and 20.2 per cent inoperable. As to the relationship between the changes in the extirpated kidneys and the clinical symptoms, Okada found the predominance of fully developed tuberculosis (60.5 per cent), followed by the early stage of changes (29.6 per cent) and the terminal stage (9.9 per cent). In the early stage of disease the involved kidney is of normal size, but it gradually diminishes with the progress of the infection. The changes in the renal pelvis and in the size of the ureter parallel one another. The healing of operative wounds took place on an average of two months or less in nearly half of the cases (46.8 per cent). The survival time after the operation was three years in 47.4 per cent; the prognosis was most favorable in patients with minimal pathologic change in the lung. Permanent cure (survival time of over three years) was encountered in 55.1 per cent of all surgical cases; in cases in which for any reason operation was not performed, the mortality was high (81.1 per cent).

Taiwan Igakkai Zassi, Taihoku, Formosa

39:1739-1946 (Nov.) 1940. Partial Index

*Takata Reaction in Malarian Serums. T. Ou.—p. 1825.

*Serodiagnosis of Malaria. M. Asai.—p. 1836.

Takata Reaction in Malaria.—Using the modified Jezler technic, Ou performed Takata tests on 116 malaria patients in various stages of infection, with 24 normal subjects as controls. In acute cases the reaction was negative in every instance; the incidence of positive reactions increased with the chronicity of the disease. In patients with hepatomegaly the reaction was usually positive but became negative with improvement following specific therapy. If turbidity and transient flocculation are regarded as positive reactions, the minute changes which take place in the serums in acute cases can be detected and the progress of such changes may be followed as the disease becomes more chronic. In chronic malaria with hepatomegaly such reactions are 100 per cent positive. No agreement in results between the Takata reaction and the Henry test was detectable in acute cases of malaria, but in chronic cases both tests frequently give positive results. From these experiences the author believes that in malaria serums some definite changes in colloid chemistry occur, the changes being relatively slight in acute stage and increasing with the progress of the disease. No parallel relationship was demonstrated between the liver function test (azorubin S method) and the Takata reaction.

Serodiagnosis of Malaria.—Asai has found that a complicated mixture such as employed in Henry's reaction is unnecessary, since a simple mixture of 1 cc. of retinal melanin and 0.2 cc. of serum is as satisfactory. The melanin was prepared from the buffalo retina and diluted ten times with alkaline water. In testing serums from 133 patients with retinal melanin, artificial melanin and alkaline water, he found the first of these reagents to give coarse flocculation in chronic cases, and the second reacted with finer precipitation mostly in acute cases, while the third was effective only in a small percentage of the chronic cases. The author believes that the melanin tests are valuable in the serodiagnosis of malaria at all stages of the disease.

Book Notices

The Working Environment and the Health of Workers in Bituminous Coal Mines, Nonferrous Metal Mines, and Nonferrous Metal Smelters in Utah. By the Division of Industrial Hygiene, National Institute of Health, U. S. Public Health Service and the Utah State Board of Health. Paper. Pp. 310, with 38 illustrations. Salt Lake City: Industrial Hygiene Division, Utah State Board of Health, 1940.

This report is a notable one in the series of joint investigations by the U. S. Public Health Service and individual states. As the result of a preliminary survey by the federal agency in 1936 it was discovered that the major industrial health hazards in this state occurred in bituminous coal mines, nonferrous metal mines and nonferrous smelters and involved exposures to dusts of silica, lead and other metals and to various fumes and gases. Three representative coal mines, three metal mines and two smelters, employing in all two thousand eight hundred and thirty-nine men, were selected for detailed study. This involved complete physical examination of all employees with roentgenograms of their chests, serologic tests for syphilis, blood examinations for evidence of lead absorption where indicated, a routine urine examination in all cases and in 961 a spectroscopic examination of the urine for lead. Engineering studies of the environments of each plant pointed out places where hazards from silica, lead, arsenic, cadmium, sulfur dioxide, carbon monoxide, carbon dioxide, hydrogen sulfide, hydrogen cyanide and methane might be anticipated. Correlation of these findings with evidence of disease in previously exposed employees permitted the establishment of certain tentative standards of safe concentrations for these irritants in the local industries. In accordance with its agreement on the completion of the preliminary survey, the state of Utah has appropriated \$25,000 toward the development of a permanent industrial hygiene service for the continued inspection and control of its industrial hazards.

This report, covering all details of the causation, diagnosis and prognosis of the diseases involved, constitutes an excellent textbook. Its detailed data constitute a valuable contribution to industrial hygiene. The volume would be a useful textbook for physicians practicing in the state. It contains eleven illustrations of characteristic roentgenograms of silicosis.

In the bituminous coal mines the major health hazard was from silicosis, but in this state as elsewhere the number of cases was small. Among five hundred and forty-five employees in three mines (about one fifth of the total employed in the state) the total incidence of anthracosilicosis was 4.6 per cent. The incidence of reinfection tuberculosis, 2.6 per cent, was little above that of the general population.

Among seven hundred and twenty-seven metal miners working in rock whose free silica content varied from insignificant quantities to over 99 per cent, there were 9.1 per cent with definite silicosis and another 5.8 per cent in a presilicotic condition. The total incidence of reinfection tuberculosis was low, only 2.5 per cent. In the silicotic subjects alone it was nearly 14 per cent, but with this group excluded only 1 per cent of the remaining miners showed evidence of this infection.

Lead poisoning was the next most frequent industrial disease, and this involved chiefly the miners at the face. During a period of five years preceding the survey twenty men reported disabling attacks of plumbism and at the time seventy-five had signs of lead absorption. The only other significant condition discovered was a mild dermatitis attributed to sulfide ores, which occurred in a few of the miners. Cardiovascular disease was of normal frequency for the age group.

In smelters there was a silica hazard in the concentrating department, a lead hazard, particularly prevalent in the bag houses, where atmospheric concentrations as high as 6,000 mg. in 10 cubic meters of air were measured, a carbon monoxide hazard in furnace charging and a sulfur dioxide hazard in many different departments. Excluding men who had had two or more years' exposure elsewhere the crude silicosis rate was 2.7 per cent among one thousand three hundred and ninety-one employees. In the concentrating departments alone exposures of twenty or more years caused silicosis in 22.6 per cent of the employees. No cases of acute plumbism were discovered, but 2.9 per cent of the group had clinical manifestations of lead absorption. Histories of lead poisoning in the past were infrequent. The only possible

evidence of arsenical poisoning was the discovery of 75 cases of nasal septal perforation. Conjunctivitis, rhinitis, pharyngitis and gastrointestinal symptoms that may have been due in part to sulfur dioxide to exposure were frequent.

The most striking feature of the smelter survey was the high frequency of adult type tuberculosis with a crude rate of 5.4 per cent. No particular group was affected, and even after the silicotic members had been excluded the rate for the rest of the men was 4.9 per cent. The cause could not be ascertained. It was concluded that if the inhalation of sulfur dioxide was of importance it was probably only one of several factors involved.

The recommendations for the control of these hazards conform to generally accepted practice. The standards of permissible concentrations of dusts and gas are based on local experience but they also are in conformity with measures applied elsewhere.

Structural and Other Precautions Against Air Raid Risks in Hospitals. Issued by the Ministry of Health and the Department of Health for Scotland. Emergency Medical Services Memorandum No. 1. Paper. Price, 10 cents; 3d. Pp. 12. New York: British Library of Information; London: His Majesty's Stationery Office, 1939.

The object of the memorandum is to indicate to hospital authorities what can be done to provide protection against air raid risks both in existing hospitals and in the planning and construction of new hospitals. The main sources of danger in an air raid are high explosive bombs, incendiary bombs and poison gas. There is, in addition, danger from falling fragments of anti-aircraft shells. It is not practicable to provide hospital buildings which would resist a direct hit by a high explosive bomb or the blast effect of high explosive bombs falling close to them, though by careful planning and design something can be done to mitigate or localize the damage. Specific suggestions are made for the existing hospitals with regard to special protection of the ground floor, the windows and the roof. It is advised that hospitals in dangerous situations provide special shelter accommodation for the staff off duty and for such patients as may be able to use it. Basements or cellars may be suitable for this purpose. Trenches or arched steel shelters may be provided in the ground. It is essential to prevent the direct admission to hospitals of persons who have been contaminated with persistent gas, such as mustard gas, and to exclude gas-contaminated articles from the main hospital buildings. In the construction of new hospitals the selection of a site is of great importance. A frame building is the type that offers the greatest resistance to blast pressure and is least likely to collapse completely. The buildings should be of fire resisting material throughout. Roof light for the operating should be dispensed with, and windows should be designed in such a way that they can be readily blocked up. In large hospitals especially, additional or alternative operating rooms should be designated in as safe positions as possible. The basement may be so constructed as to be suitable for an air raid shelter.

Dietetics Simplified: The Use of Foods in Health and Disease. By L. Jean Bogert, Ph.D., Instructor in Experimental Medicine, Yale University, New Haven. With Laboratory Section by Mame T. Porter, M.A., Nutritionist, State Department of Social Welfare, Albany. Second edition. Fabrikoid. Price, \$3. Pp. 742, with 76 illustrations. New York: Macmillan Company, 1940.

This is an elementary textbook on dietetics intended for use primarily by hospital dietitians, nurses in training and medical students. As might be expected, the larger part of the book is concerned with the discussion of various types of special diets. In addition the book contains an introductory discussion of the fundamentals of human nutrition and of the principles underlying the selection of adequate diets in normal conditions, among which are included infancy and pregnancy and lactation. To aid the classroom teacher a list of discussion questions and problems has been appended to each chapter, and there are included also plans for a series of laboratory lessons in general cookery and in methods of preparation of a variety of special diets. An appendix provides tables of food composition, including vitamin content, and height-weight tables for children and adults. The tables of food composition include data for canned and cooked as well as raw foods.

Largely because of the effort to simplify and condense the material which deals with normal nutrition and with diet under

normal conditions, a number of factual errors have been allowed to enter. Some of these errors were pointed out by an earlier reviewer and have not been corrected in the second edition. For example, on page 34 cocoa and chocolate are still incorrectly classified as foods rich in sugar, and fish in general is still listed as a food rich in fat (10 to 25 per cent). Apples are listed on page 135 as "among the best body alkalinizers" although there is published evidence to the contrary, while tomatoes and pineapple, which have been shown to be much more effective in reducing the alkalinity of the urine, have been omitted from the list. Also several of the recommendations for children's diets, particularly the advice to serve only cooked vegetables, and those finely minced or mashed, to children of 5 to 9 years of age are not in accord with the best modern pediatric practice. It is difficult to keep printed material abreast of the rapid developments in the field of the vitamins. However, it is unfortunate that in a book published as recently as this one has been chemical names of the vitamins have not been used, vitamin requirements have not been expressed in units of weight as well as in terms of biologic units, and the possibility of a deficiency of riboflavin in the diet has not been recognized. In the tables of food composition, vitamin potencies are expressed in terms only of biologic units. These inaccuracies and omissions mar the value of the book for use by the elementary student of nutrition or for the general reader. It should be valuable, however, for the primary purpose for which it was intended; that is, as a textbook for use in teaching elementary courses in diet therapy or diet in disease. The teacher should remember, however, that more extensive reading on the subject of the fundamentals of human nutrition is desirable for students who do not already have a good foundation in this subject.

Elementary Atlas of Histology. By Burton Bradley, M.B., Ch.M., M.R.C.S. With foreword by J. B. Cleland, M.D., Professor of Pathology, University of Adelaide, Adelaide. Fabrikoid. Price, 15s. Pp. 122, with 58 plates. Sydney & London: Angus & Robertson Limited, 1940.

This collection of rough sketches of representative microscopic fields of most of the organs is intended as "some sort of liaison between what the junior student sees with his eyes in the average preparation given out in classes and the very excellent descriptions in textbooks." In most colleges and medical schools in this country each student is required to make a series of rough sketches of zoological and histologic material like those in this book. This induces the student to label the structures seen in the microscopic preparation and tests his knowledge of what he has seen. He would not profit if the teacher identified the structures in his sketches, which would be the result of the use of this book. The reviewer is completely out of sympathy with attempts at spoon feeding and accordingly sees no value in a book such as this.

Radiologic Physics. By Charles Weyl, S. Reld Warren, Jr., and Dallett B. O'Neill, Moore School X-Ray Laboratory, Moore School of Electrical Engineering, University of Pennsylvania, Philadelphia. With a foreword by Eugene P. Pendergrass, M.D., Director of the Department of Radiology, University of Pennsylvania. Cloth. Price, \$5.50. Pp. 459, with 166 illustrations. Springfield, Illinois, & Baltimore: Charles C. Thomas, 1941.

A general practitioner, thumbing through this volume and glancing hurriedly at the charts, curves, diagrams and tables, would probably come to the conclusion that this book is not written for him. A more careful reading of the work will convince him that it is still readable although it abounds with mathematical expressions, and much about physics can be learned even though the reader may not have a knowledge of mathematics. Because of the significant advance in the field of radiology and physical therapy, physics is now playing a greater role in the fundamentals of medicine. A practicing physician to be on his toes should now learn to interpret physical formulas the same as he does a chemical formula. The book is divided into two parts. The first part consists of the fundamentals of electromagnetism and electromagnetic devices. The second part deals specifically with radiant energy and its inner actions with matter. The fundamentals of electricity, magnetism and radiation are dealt with in a convincing manner. There are descriptions and diagrams of electromedical equipment such as x-ray hook-ups, diathermy and testing equipment. There are a large

number of diagrams of instruments for measuring electrical and radiation quantities. The second part concerns x-ray radiation almost entirely although there is a chapter on the disintegration of matter, radioactive in molecular physics. This volume is probably more suitable for the student who wishes to specialize in radiology and, as it is stated in the foreword, "in order that a physician might develop and be worth his salt in the modern department of radiology, it is necessary for him to master at least the fundamentals of modern physics. . . ." Chapter 1, on scientific method, contains fundamental information every physician should know and appreciate. This volume would serve as a good textbook in school where radiology is taught and would also be an excellent reference work for the library of such a school.

Blutdruckmessung und Kreislauf in den Arterien des Menschen: Geschichte und heutige Lage der Probleme neue Lösungsversuche. Von Dr. Heinrich von Recklinghausen. Kreislauf-Bücherei. Herausgegeben in Verbindung mit der Deutschen Gesellschaft für Kreislaufforschung. Band IV. Paper. Price, 30 marks. Pp. 532, with 197 illustrations. Dresden & Leipzig: Theodor Steinkopff, 1940.

In this volume are considered determination of blood pressure of animals, indirect methods of determination of blood pressure such as palpation and auscultation, the influence of the arterial wall on determination of blood pressure and the various instruments for measuring blood pressure. Studies of pulse waves are considered in detail. There are chapters on direct measurement of blood pressure of man, and on hemodynamics. More than three hundred references are presented.

The Officers' Guide: A Ready Reference on Customs and Correct Procedures Followed Within the Army Which Pertain to Commissioned Officers. For the Use of All Officers of the Regular Army, National Guard and Officers' Reserve Corps. Fourth edition. Cloth. Price, \$2.50. Pp. 383, with illustrations. Harrisburg, Pa.: Military Service Publishing Company, 1941.

A doctor in the Army is an officer. He has to know about customs and correct procedures from a military as well as a medical point of view. There is probably no other book available which gives all this information as compactly and as accurately as does this volume. The new medical officer can find here the customs that prevail. There is a chapter on pay and allowances, another on leaves of absence, promotion and retirement. There is information concerning life insurance, participation in post activities, an analysis of the Selective Service Act of 1940, and much other useful information. Indeed, the book is so up to date as to supply a complete list of Army posts with the type of assignments for each and the nearest town or city. An appendix provides a guide to military symbols and abbreviations, and there is a well constructed index.

Trudy Ukrainського Mechnikovskogo Instituta. Pod redaktsiyei M. S. Segal i M. M. Tsekhomovitsera. Tom pyaty. [Works of Ukrainian Mechnikov Institute. Volume V.] Paper. Price, 17 rubles. Pp. 280, with illustrations. Kharkov: Izdanie Ukrainського Mechnikovskogo Instituta, 1940.

The volume is a collection of papers emanating from the Ukrainian Mechnikov Institute. The papers are brief reports dealing with investigations on the bacteriologic, immunologic and related aspects of infectious diseases, in particular of diphtheria, scarlet fever, typhus, bacillary dysentery and rabies. The standard achieved is that of routine laboratory research. The text is in Russian. It should prove of interest to workers in this field.

The American College of Physicians: Its First Quarter Century. Illustrator: William Gerry Morgan, M.D., LL.D., Sc.D., Professor of Gastroenterology, Georgetown University School of Medicine, Washington, D. C. Cloth. Price, \$2. Pp. 275, with illustrations. Philadelphia, 1940.

In addition to Dr. Morgan, whose long association with the American College of Physicians eminently qualifies him to write this book, it contains contributions from Edward R. Loveland, secretary of the college since 1926, Maurice C. Pincoffs, Walter L. Bierring, Charles F. Martin and James Alexander Miller. The history of the college is interwoven with the general medical events of the period from 1915 to the present and is an integral part of it. This book records the history of the college and the contributions of its most active officers. It is an excellent addition to the growing literature on American medical history.

Queries and Minor Notes

THE ANSWERS HERE PUBLISHED HAVE BEEN PREPARED BY COMPETENT AUTHORITIES. THEY DO NOT, HOWEVER, REPRESENT THE OPINIONS OF ANY OFFICIAL BODIES UNLESS SPECIFICALLY STATED IN THE REPLY. ANONYMOUS COMMUNICATIONS AND QUERIES ON POSTAL CARDS WILL NOT BE NOTICED. EVERY LETTER MUST CONTAIN THE WRITER'S NAME AND ADDRESS, BUT THESE WILL BE OMITTED ON REQUEST.

HEMORRHOIDECTOMY AND PELVIC SURGERY AFTER LABOR

To the Editor:—In the interest of formulating a policy for guidance of a large hospital obstetric service, I should like your opinion of (1) hemorrhoidectomy immediately after the completion of the third stage of labor or hemorrhoidectomy two to seven days post partum; (2) anterior and/or posterior colporrhaphy with or without repair of old cervical lacerations immediately following the third stage, or the same procedures several days to one week later; (3) abdominal sterilization by an accepted form of tubal operation immediately after a vaginal delivery, or laparotomy several days to one week later for the same purpose in cases in which pregnancy is contraindicated, as for example by tuberculosis and chronic nephritis. Considerable discussion of these questions, without consistent conclusions, has taken place among several of our obstetricians. An opinion would be invaluable to our obstetric staff, which, in addition to obstetricians, has a large "courtesy" group. M.D., New York.

ANSWER.—1. In general it is better practice not to do multiple operations at one time, but since experience has shown that third degree lacerations heal better when repaired directly after labor than later it would seem that little objection could be raised against hemorrhoidectomy just after the third stage. If an extensive repair of the pelvic floor is done it may be better to postpone the removal of hemorrhoids, because the two would require so many sutures that the vitality of the tissues might be so reduced as to cause sloughing or infection and embolism. The comfort of the woman afterward must also be considered. Further, the fact that the hemorrhoids go down considerably after the congestion due to pregnancy and labor is over would counsel conservative practice.

2. If a previously torn cervix is torn again it should be repaired right after the third stage. The same is to be said of perineal tears and, further, one may dissect the flaps a little more so as to reach the levator pillars and the intercolumnar fascia, thus to make a more anatomic repair; but it would be better to postpone an extensive dissection for the interim period or after active childbearing is past. The reasons for this conservatism are the dangers of hemorrhage, hematoma, infection and embolism, all of which have been found to be more common after these operations.

3. Tubal ligation for proper indication is best done within twelve hours after delivery. There is good reason for believing that bacteria invade the uterus during the puerperium and that they even get into the fallopian tubes. All who operate on the tubes after cesarean section have experienced cases of peritoneal irritation, fever or at least an increase of pain, which indicate that something has been stirred up.

In general if these operations of expediency cannot be done immediately after delivery they should be postponed until the parturient canal, indeed the whole pelvis, has had time to cleanse itself and all local immunities, disturbed by pregnancy and labor, are reestablished.

Expediency for the patient is not a good indication for operation under the circumstances named, and indeed it rarely is, while expediency for the physician is even less an indication and more rarely, if ever, may be invoked.

PTYALISM WITH COATED TONGUE

To the Editor:—A man aged 21 has a complaint of excessive thick, whitish foamy saliva of several months' duration. The thickness at times interferes with the act of talking. Examination reveals nothing abnormal in general, and the salivary glands seem to be normal in size without any tenderness. The upper surface of the tongue looks whitish, and on scraping it with a tongue blade one obtains plenty of a thick, whitish secretion which is only slightly foamy and is acid to litmus paper. There is no tenderness or evidence of glossitis. The papillae do not look unduly enlarged. I believe that application of a mild silver nitrate or gentian violet and hydrogen peroxide mouth wash probably will check the condition. Not having seen or heard of such a case, I am in a quandary.

S. H. Babington, M.D., Berkeley, Calif.

ANSWER.—The primary condition which has been described is probably ptyalism (hypersecretion), and it can arise from a variety of causes, including mental and nervous conditions, acute fevers, stomatitis and other conditions. Mercury, iodine and tobacco have been described as causes, and irritation of the

esophagus, gastric hyperacidity and peptic ulcer have also been found to be associated. Since there is no general abnormality and no local inflammation the cause would apparently fall into one of the other groups. It is assumed that there is not an obstruction of a salivary duct, since the absence of swelling was noted.

The condition of the tongue may be due to the same fundamental condition and is of secondary importance. The presence of a white coating is not characteristic of a fungous infection and simply suggests a failure of the cells to exfoliate normally.

It is suggested that the gastric acidity be tested; tincture of belladonna may be used in doses of 5 to 10 minims (0.3 to 0.6 cc.) or so three times a day, and mouth washes of zinc chloride or magnesia magma preparations may be used for a trial. A definite prohibition against taking drugs should be made, and smoking should be stopped if the patient smokes at the present time. If these methods do not give a clue or a cure, observation of the local and general condition may be the only answer.

HAZARDS FROM LATEX CEMENTING

To the Editor:—Can you give me any information concerning the solvent used in connection with latex in the manufacture of shoe soles? I have a patient who has been working for the past six months with latex, which she sprays on shoes. She has a severe dermatitis, cough and secondary anemia, and I am wondering if some benzene derivative is used which might be causing her anemia. There is apparently no depression of the granulocyte or lymphocyte series. M.D., Illinois.

ANSWER.—Latex as used in the manufacturing of shoe soles consists of a suspension of rubber in a weak solution of ammonia. It is used as a cementing agent. Such a material may cause a dermatitis, and in an allergic person it is possible that bronchial asthma may develop. The concentration of the ammonia in the latex cement is so low that it is unlikely to cause bronchial irritation. The presence of secondary anemia in the patient described cannot be ascribed to the latex cement. Assuming that other causes of secondary anemia have been ruled out, anemia of this type might indicate that rubber cements containing benzene are also being used. Rubber cements, unlike latex cements, which ordinarily contain no organic solvent, consist of rubber dissolved usually in either benzene or naphtha. Of the latter two solvents, benzene is by far the more dangerous, and, if it is found that benzene cements are being used, the patient should be removed from such exposure. Ventilation should be applied to any operation in which there is a likelihood that benzene vapors from the process might build up a dangerous concentration in the area of work.

FISH TAPEWORMS

To the Editor:—Would you give me the information concerning the possibilities of infection with fish tapeworms through infected water? Any additional information which you can send concerning the diagnosis of the condition and treatment of the patients, as well as methods of clearing the water, will be appreciated. M.D., W. Va.

ANSWER.—As many species of tapeworms which parasitize fish are not capable of infecting man it would be advisable, if this has not been previously done, to submit specimens to a specialist to make sure that *Diphyllobothrium* is the tapeworm in question. Identification of the worm in this case would involve experimental completion of the life cycle in a susceptible vertebrate, since the sparganum stages of the various species of this genus found in fish are at present indistinguishable by direct examination. Human infection by the adult worm is established only by the ingestion of the sparganum stage from fish, which occurs either by eating poorly cooked infected fish or by accidental transfer of the spargana to the mouth after handling infected fish. Human sparganosis might be obtained from the drinking of water containing infected Cyclops. The prevention of human infections would vary considerably in method, depending on the species of worm involved.

MALARIA NOT CAUSE OF EYE INFLAMMATION

To the Editor:—Recently I heard of a case in which a physician told a patient that the cause of his ocular inflammation was a malarial infection of the eye. I had understood that a malarial infection was always an infection of the blood stream; if this is wrong I want to know it. Is there such a thing as a malarial infection of the cornea and other ocular structures? M.D., Mississippi.

ANSWER.—There are no inflammatory reactions of the eye that have been shown to be the result of a malarial infection. This is not unexpected, as malaria is a noninflammatory type of infection and in general does not invade tissues other than

the red cells. Not infrequently malarial infections caused by *Plasmodium falciparum* are so overwhelming that by capillary occlusion symptoms are produced referable to the area most involved, as cerebral, gastrointestinal or urinary, but disorders of the cornea or of the other ocular tissues have not been recognized as complications of malaria. It is entirely possible, however, that any inflammatory condition of the eye could coexist in a patient with malaria, but there would be no direct connection between the two infections.

POLLEN INJECTIONS AND PURPURA

To the Editor:—A man aged 36 has had symptoms of pollinosis due to ragweed and has received preseasonal immunization followed by one injection a month. During the past nine months he has received once a month an injection of 1,000 protein nitrogen units of ragweed combined extract. Six weeks ago the patient had a dermatitis identified by two competent skin specialists as purpura simplex. The rash disappeared after three weeks. Two weeks later he was given 800 protein nitrogen units of the ragweed extract, following which he had a few purpuric spots appear. I should like comment and recommendations.

M.D., Connecticut.

ANSWER.—The occurrence of purpura after injections of pollen extract is extremely rare, and it is questionable whether there is any connection between the two. The fact that the patient is allergic to pollen leads to the belief that he may be allergic also to foods, and a search should be made for one or more foods as a possible cause for the purpura. The patient should receive his pollen extract regularly and should discontinue only if purpura follows each injection. Many men believe that injections once a month are spaced too far apart. In most cases the perennial treatment is done at intervals of once every two weeks.

SULFONAMIDE DERIVATIVES IN INFLUENZA

To the Editor:—Some of my patients have told me that while in the United States they contracted influenza and were given sulfanilamide or sulfapyridine, and that this seemed to be a common procedure. As far as I can find out from *The Journal* and other publications, no recognized authority advises the use of these drugs, and I am inclined to think that their use in such a mild disease should be criticized rather than encouraged. What is the consensus on this subject? The free use of these drugs in many minor diseases causes some patients to think that those physicians who do not use them are behind the times.

David Hoehn, M.D., Fairbanks, Alaska.

ANSWER.—In experimental procedures there has been no evidence that the sulfonamide drugs have any beneficial effect on the course of infection with influenza virus. There is no basis, therefore, on which to assume that such therapy would be effective in human beings with the virus infection. On the other hand, complications are to a great extent due to the bacterial agents. Since they respond to the chemotherapeutic agents, the drugs may be of definite value in reducing the incidence of complications. It seems unwise, however, in the case of the relatively mild epidemics to subject the patients with the uncomplicated disease to extensive administration of sulfonamides.

OPERATIVE TREATMENT FOR OCCLUDED OVIDUCTS

To the Editor:—At the age of 18 a woman had acute gonorrheal bilateral salpingitis. She was treated in bed a month or two and made a good recovery. The gonococcus was identified on slides. Since the recovery she has had no recurrences or flare-ups. She is now 33 and has been married since the age of 22. She has been nervous since the gonorrhea, and red blotches appear on the neck and the chest when she becomes nervous. Her blood pressure is now 160 systolic and 75 diastolic, and she weighs 125 lbs. (56 Kg.). She complains of fatigue on some days. The thyroid is not palpable and there is no tremor of the hands. She has never been pregnant; she menstruates monthly. Is there any treatment for the nervousness and fatigue? Is there any operation or anything that can be done so that she can become pregnant? What would be the effect of removing the lateral two thirds of each tube, and would an abdominal pregnancy be as apt to occur as an intrauterine pregnancy? In abdominal pregnancies in which the cord is cut and tied close to the placenta, and the placenta left adhering to the intestines, what are the possibilities for ultimate results?

M.D., Pennsylvania.

ANSWER.—The nervousness and fatigue should be accorded the usual medical care for such troubles.

Abdominal operations on the oviducts in cases such as this are followed by normal pregnancy in about one third of the cases. If the patient wishes an operation (she should not be urged to have one) the husband should first be examined for fertility. Then the patient's tubes should be tested for patency. If these are occluded, some gynecologists resort to uterosalpingography before attempting operative relief. The risk of tubal or abdominal pregnancy is not notably greater than in the average normal patient.

DETERMINATION OF ANDROGENIC HORMONES IN URINE

To the Editor:—I have been testing the content of androgenic hormone on a twenty-four hour specimen of urine by the capon method, according to the directions given in Kracke and Parker's *Textbook of Clinical Pathology* (ed. 2, Baltimore, Williams & Wilkins Company, 1940, chapter 24). I have found that the extracted residue after evaporation does not go into solution with ether but remains insoluble as a brown powder. Can you give me any suggestions as to the reason for this or suggest the further carrying out of the assay with this residue? I shall appreciate any information you may be able to offer.

M.D., Nebraska.

ANSWER.—The only reason for the appearance of a powder-like residue in the benzene extract could be failure to remove all precipitates from it before evaporation. The filtered benzene extract should be a clear, colored liquid without any droplets of water or particles in emulsion. The evaporation on a hot plate should be done without unnecessary overheating, and the residue should be a thick, oily fluid of about a fraction of a cubic centimeter. This will go completely into solution in the ether, producing a clear, highly colored ether extract. Any small precipitated matter which is found after evaporation of the benzene may be filtered off from the ether and removed.

COW'S MILK IN INFANT FEEDING

To the Editor:—1. What dilutions of cow's milk are commonly used by the large maternity centers during the first two weeks of the neonatal period? 2. Where and by whom was reported a high incidence of tetany in connection with high concentrations of cow's milk during this period? 3. Is it now a common procedure to boil the cow's milk for five minutes before making the dilution? What is the scientific basis for such a procedure?

M.D., California.

ANSWER.—1. The usual dilution is equal parts of boiled cow's milk and water with 3 to 5 per cent carbohydrate. After the first week if the mother's milk is scanty this may be increased to the full caloric requirement.

2. There has never been a high incidence of tetany in the newborn reported from any cause, certainly not from high concentrations of cow's milk. This was simply suggested as a possible etiologic factor by Bakwin (*Pathogenesis of Tetany of the Newborn*, *Am. J. Dis. Child.* 54:1211 [Dec.] 1937). 3. Cow's milk should be boiled for five minutes for two reasons. Boiled milk is bacteriologically the safest, and it is more easily digestible, as the curd of boiled milk is finer, softer, more porous and more permeable to digestive enzymes.

USE OF PROCAINE HYDROCHLORIDE WITH EMETINE

To the Editor:—The parenteral administration of emetine hydrochloride is definitely a painful procedure at best, especially after the patient is well into his course of treatment. As a result, not infrequently the patient will evade treatment. In order to avoid this result I have been using procaine hydrochloride, 1 or 2 per cent solution, as the solvent. This has made intramuscular injections painless, much to the relief of the patient, which in turn assures one an unbroken course of treatment. Although I began this but three months ago, no untoward symptoms have been noted nor has the efficacy of the treatment been impaired. Are there contraindications to giving emetine in this manner from a pharmacologic standpoint or otherwise?

M.D., U. S. Navy.

ANSWER.—There would not be any pharmacologic interference of procaine with emetine, nor would there be danger of toxic effects from the repeated hypodermic injection of 1 cc. of 1 to 2 per cent procaine solution, except with hypersusceptible patients.

ATROPHIC BREASTS

To the Editor:—A patient complains that since the delivery of her three children her breasts have been atrophic and she desires to know, for cosmetic reasons, if there is anything she can do to make the breasts larger.

T. C. McDougal, M.D., La Grange, Ill.

ANSWER.—Enlargement of atrophic breasts has been reported as following the use of estrogen, either by injection or by local application of an ointment containing estrogen. The breasts, it has been stated, may recede in size following cessation of therapy. Prolonged administration of estrogen to maintain breast growth is not advised, as this therapy may well disturb the ovarian function and result in an abnormal menstrual cycle.

ALLERGIC CONJUNCTIVITIS

To the Editor:—The answer to a query on allergic conjunctivitis, March 22, 1941, page 1337, contains an error apparent to the allergist. In the second paragraph of the answer it states that "the intradermal testing for the causative agent may reveal little, as cutaneous tests seem to be of little value in allergic conditions of the eye." Conjunctivitis due to pollen is the frequent condition, and its diagnosis may be readily determined by the cutaneous test, a most useful procedure. Other inhalants which produce conjunctivitis may also be identified by the cutaneous test, but I cite the pollinosis cause in view of its frequency. Even the less sensitive scratch test is of value in diagnosing pollen conjunctivitis.

David Louis Engelsher, M.D., New York.

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NERVOUS INJURY PRODUCED BY SULFANILAMIDE

AND SOME OF ITS DERIVATIVES IN THE CHICKEN:
PRELIMINARY REPORT

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MINNEAPOLIS

One of the toxic manifestations that has followed the clinical use of sulfanilamide and some of its derivatives is what has most commonly been called peripheral neuritis. Although not so dangerous or so frequent as certain other toxic symptoms produced by these drugs, this nervous phenomenon has given rise to a certain amount of concern and apprehension. Reactions of this nature are not unknown, for similar symptoms have been produced occasionally by other drugs, such as the arsphenamines.

Up to the present time little consideration from an experimental standpoint has been given to the pathologic effects that might arise from a toxic action of these drugs on the brain, the spinal cord and the peripheral nerves. Rosenthal¹ and Nelson² have conducted such a study with sulfanilamide and sulfanilyl sulfanilamide in the chicken and the rabbit. However, they felt that their data were inconclusive, even those obtained on the chicken, in which they observed the greatest injury.

In the study herein described six drugs, namely sulfanilamide, sulfapyridine, sulfathiazole, sulfamethylthiazole, sulfanilyl dimethyl-sulfanilamide (uliron) and sulfaphenylthiazole have been administered daily to young chickens with the aim of determining the extent and degree of injury, if any, produced on the nervous tissues previously mentioned. The first three drugs have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association,³ and

a nonproprietary name has been given to the fourth compound in the series by the Council.⁴

The clinical literature indicates that these drugs show wide variations in the number of chronic toxic nervous reactions which have been observed during therapeutic use. In 1938 Long and Bliss⁵ noted 2 cases of possible peripheral neuritis caused by sulfanilamide. Since that time several other cases have been reported. Considering the extremely wide use of this drug, this low incidence is significant. Sulfapyridine and sulfathiazole, the uses of which have been more limited, apparently have not produced peripheral neuritis. On the other hand, Brown and his associates⁶ at the Mayo Clinic observed 3 cases of possible peripheral neuritis among 106 patients treated with sulfamethylthiazole. Likewise, they⁷ have observed 2 cases of possible peripheral neuritis among 70 patients treated with sulfanilyl dimethyl-sulfanilamide. Long and Bliss also recorded a number of cases of possible peripheral neuritis associated with therapy with sulfanilyl dimethyl-sulfanilamide. No data are available on the nervous effects of sulfaphenylthiazole because it has not been used clinically.

It was startling, therefore, to find that the trend of pathologic lesions herein observed in the chicken presented a rough parallel with this trend of clinical experience. Consequently our preliminary report of the work on the chicken is being made in order to ascertain, with the help of clinicians, to what extent this correlation may be true. If such a correlation is found to exist, the chicken might serve as an index as to whether a given drug is safe or moderately or severely dangerous for clinical use.

The chickens used in these experiments were single-combed white Leghorns, and they varied in age from 8 to about 26 weeks. In the laboratory most of the chickens were fed a commercial ground feed, namely "Purina Growena," although a few were maintained on whole grains. For the most part, the drugs were administered orally by stomach tube or in capsules, generally in doses of 0.5 or 1 Gm. per kilogram of body weight once a day. A few chickens received sulfapyridine and sulfathiazole orally in doses of 0.3 and 0.5 Gm. per kilogram of body weight at intervals of twelve hours. Doses were continued, as a rule, for periods of one or two weeks. Concentrations of the various drugs in the blood have been determined with the Bratton and

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From the Department of Pharmacology and the Division of Nervous and Mental Diseases, University of Minnesota Medical School.

Merck & Co., Inc., supplied the sulfapyridine and The Winthrop Chemical Company, Inc., supplied the sulfanilamide, sulfathiazole and the other derivatives used in the experiments on chickens.

1. Rosenthal, S. M.: Some Toxic Effects of Repeated Administration of Sulfanilamide and Sulfanilyl Sulfanilamide in Chickens and Rabbits and Chickens, Pub. Health Rep. 54:111-117 (Jan. 17) 1939.

2. Nelson, A. A.: Histopathologic Changes in Hens and Rabbits Following Administration of Sulfanilamide and Sulfanilyl Sulfanilamide (Di-Sulfanilamide), Pub. Health Rep. 54:106-127 (Jan. 27) 1939.

3. New and Nonofficial Remedies, Chicago, American Medical Association, 1940, pp. 489-497. Sulfathiazole, Report of the Council on Pharmacy and Chemistry, J. A. M. A. 116:308 (Jan. 25) 1941.

4. "Sulfathiazole" and "Sulfamethylthiazole" the Nonproprietary Names for 2-Sulfanilamidothiazole and 2-Sulfanilamido-4-Methylthiazole, Report of the Council on Pharmacy and Chemistry, J. A. M. A. 114:2387 (June 15) 1940.

5. Long, P. H., and Bliss, Eleanor A.: The Clinical and Experimental Use of Sulfanilamide, Sulfapyridine and Allied Compounds, New York, Macmillan Company, 1939.

6. Brown, A. E., and Herrell, W. E.: Clinical Experience with Sulfamethylthiazole, Am. J. M. Sc. 200:618-632 (Nov.) 1940.

7. Bannick, E. G.; Brown, A. E., and Foster, F. P.: Therapeutic Effectiveness and Toxicity of Sulfanilamide, J. A. M. A. 111:770-776 (Aug. 27) 1938.

Marshall modification of Marshall's method.⁸ The readings were made with a Duboscq microcolorimeter.

Table 1 presents the range of blood concentration determined at four, twelve and twenty-four hours after single oral daily doses of 0.5 Gm. per kilogram of body weight of each of the drugs. Despite the fact that the doses administered to the chickens were extremely high in comparison with clinical doses, the resulting levels of the drugs in the blood with the exception of that of sulfanilamide, were not greatly out of proportion to the concentrations obtained in clinical use. The concentrations of sulfanilamide in the blood, as was to be expected, were the highest of the group. Just as in other animals, this is probably due to a more complete absorption. Furthermore, after a few days cumulation tends to occur, probably because of an elimination which is slower than the absorption. Litchfield⁹ and other investigators have also made this observation. It is to be noted that the concentrations of the six drugs in the blood differ one from another, although the administered doses of each were the same. This is probably due chiefly to variable rates of absorption, especially with sulfapyridine and sulfathiazole, a phenomenon noted by other investigators. Concentrations of the drugs in the blood after doses of 1 Gm. were somewhat

myelin, and the swollen axons began to show bulblike formations. The injury to the spinal cord with this drug was slight. With sulfathiazole, the changes in the peripheral nerves were even more severe and occasionally irreversible. Fragmentation and vacuolation began to appear in both the myelin and the axons. Similar lesions were noted in the spinal cords and brains. In the latter there appeared endothelial proliferation of the walls of the blood vessels with narrowing of the vascular lumens. The three remaining drugs, sulfamethylthiazole, sulfanilyl dimethyl-sulfanilamide and sulfaphenylthiazole, respectively, produced an increasing degree of injury within the neural elements. The injury of normal nervous structure in the peripheral nerves reached its peak with sulfaphenylthiazole, with which complete destruction of all elements was produced in 2 of the 7 chickens. Similarly the effects on the spinal cord and the brain were most extensive. For example, in the brain the proliferative endarteritis often progressed to complete occlusion of the lumens of the vessels.

SUMMARY OF PATHOLOGIC DATA

Controls.—All nervous tissue was normal, except in 2 peripheral nerves in each of which an occasional area of mild condensation of myelin was observed.

TABLE 1.—Range of Concentrations in the Blood of the Chicken in Milligrams Per Hundred Cubic Centimeters of Blood

Drug	Times After Oral Administration of One Dose (0.5 Gm. per Kilogram of Body Weight) per Day *					
	4 Hours		12 Hours		24 Hours	
	Free	Total	Free	Total	Free	Total
Sulfanilamide.....	10.8 to 54	17.4 to 64.2	9.5 to 61.5	20.0 to 63.1	4.5 to 57.6	10.2 to 75.6
Sulfapyridine.....	2.8 to 6.9	4.4 to 8.1	F.T. to 1.0	F.T. to 2.1	F.T. to T.	F.T. to 2.1
Sulfathiazole.....	2.8 to 4.1	3.5 to 4.9	T. to 1.8	T. to 3.3	F.T. to T.	F.T. to 1.6
Sulfamethylthiazole.....	4.5 to 15.6	5.6 to 20.7	1.2 to 4.9	2.5 to 6.6	0 to F.T.	T. to 2.1
Sulfanilyl dimethyl-sulfanilamide.....	F.T. to T.	1.2 to 2.3	0 to F.T.	F.T. to 1.0	0 to F.T.	F.T.
Sulfaphenylthiazole.....	2.2 to 8.8	3.3 to 12.5	1.7 to 7.4	2.9 to 12.1	2.0 to 7.4	2.7 to 10.1

* T. = approximately 0.5 to 1 mg.; F.T. = less than 0.5 mg.

higher and persisted through a greater part of each twenty-four hour period.

The chickens were killed at the end of the period of medication, and immediately thereafter the brains, spinal cords and sciatic nerves were dissected out and placed in solution of formaldehyde. Sections of each of these tissues were stained with hematoxylin and eosin, Bodian stain for nerve fibers and axons and azocarmine for myelin. Sections of the peripheral nerves were cut in both cross and longitudinal sections. Table 2 presents a comparative summary of the severity of lesions observed in a series of 55 chickens, 6 of which were controls.

It can readily be seen that sulfanilamide produced the mildest injury. For the most part this consisted of a slight condensation of the myelin in the nerve sheaths of most of the chickens, beginning axonal swelling in 1 peripheral nerve and a slight injury of the myelin in 1 spinal cord. This mild injury confirms the changes observed by Nelson² with the same drug in the chicken. Next in extent of injury was that produced by sulfapyridine. The damage to the peripheral nerves was again patchy but more extensive. Geometric figures began to appear in the condensed

Sulfanilamide.—The peripheral nerves in 4 out of 6 chickens showed small areas of condensation of myelin and a mild swelling of the axons in 1. One spinal cord presented slight destruction of the myelin sheaths in the posterior and lateral regions. All other elements of nervous tissue from these 6 chickens were normal.

Sulfapyridine.—The changes produced in tissue by this drug were similar to those produced by sulfanilamide. In 10 out of 11 chickens the myelin of the peripheral nerves presented an injury varying from a patchy swelling or a mild condensation to a more extensive condensation with the occasional appearance of geometric figures. In only 3 instances were the axons involved, i. e. occasional irregular swellings to more extensive bulblike formations with loss of tinctorial properties. One spinal cord showed slight injury consisting of swelling of myelin sheaths in the posterior columns. The brains were normal.

Sulfathiazole.—Every peripheral nerve presented some injury. Four showed a mild, patchy condensation of myelin with the appearance of an occasional truncated cone. In 2 of these 4 nerves the axons were normal; in the other 2 the axons showed mild swelling. In 4 other peripheral nerves more extensive condensation of myelin with formation of truncated cones was present together with occasional fragmentation and vacuolation. The axons of these nerves were also involved. In the remaining 3 nerves more extensive

8. Bratton, A. C., and Marshall, E. K., Jr.: A New Coupling Component for Sulfanilamide Determinations, *J. Biol. Chem.* **128**: 537-550 (May) 1939.

9. Litchfield, J. T., Jr.: The Effects of Sulfanilamide in the Lower Vertebrates, *J. Pharmacol. & Exper. Therap.* **67**: 212-223 (Oct.) 1939.

degenerative changes, such as the partial disappearance of both myelin and axons, were also present. In 6 of the 11 chickens the spinal cords showed the following injuries: swelling of the myelin sheaths and axons, demyelination, vacuolation and fragmentation of all neural elements and pyknosis of nerve cells. The brains of 4 chickens showed a patchy reduction in staining ability of the tissues, mild demyelination and swelling and proliferation of the endothelium of the walls of many of the vessels with a narrowing of the lumens of the vessels.

Sulfamethylthiazole.—All peripheral nerves were damaged. In 2 there occurred mild condensation of myelin and axonal swelling, while in 4 others there appeared either extensive swelling of the myelin or extensive condensation with the formation of geometric figures and beginning fragmentation and vacuolation. The axons often also showed swelling and occasional fraying and fragmentation. In 1 peripheral nerve the damage to the neural elements was extensive. Six spinal cords presented changes which varied from swelling of myelin and axons to demyelination and beginning vacuolation and finally extensive disruption of the neural elements. Four brains showed pyknosis and fragmentation of nerve cells, proliferative endarteritis of the cerebral vessels and the beginning formation of glial nodules.

Sulfanilyl Dimethyl-Sulfanilamide.—The peripheral nerves showed extensive injury. In addition to the milder reactions described previously, each nerve showed mild to extensive fragmentation and vacuolation involving both myelin and axons. Six spinal cords likewise presented extensive injury. In most instances this consisted of demyelination and vacuolation of the white substances and shrinkage of nerve cells. In 1 chicken, the normal structure of the cord was completely destroyed. In 6 instances the brains contained hyperchromatic, pyknotic and swollen nerve cells, a proliferation of the endothelium of the cerebral blood vessels and the formation of small glial nodules.

Sulfaphenylthiazole.—The most extensive injury to peripheral nerves was observed with this drug. Two chickens showed only a mild injury to the myelin with intact axons. Of the remaining 5, 2 presented a patchy, complete destruction of the normal structure while the other 3 showed an almost complete involvement of all the neural elements. In these, the myelin presented extensive condensation, fragmentation and vacuolation, and the axons showed extensive swelling, loss of staining properties, irregularities and fragmentation. Every spinal cord showed some injury, which in the cases of milder involvement consisted of loss of tinctorial properties and beginning demyelination and in cases of severe involvement chromatolysis of nerve cells, swelling and fragmentation of myelin and axons. Some injury was noted in every brain, consisting of pyknosis of nerve cells, extensive proliferative endarteritis with partial or complete occlusion of the smaller vessels and occasional areas of glial proliferation. All these changes will be reported in detail at a later date elsewhere.

Correlation of the pathologic data with symptoms observed in the chickens has been difficult. Although sulfanilamide produced the mildest pathologic injury, all the chickens given this drug showed great weakness, loss of balance and a tendency to squat. The chickens would stand erect if provoked. Apparently these symptoms must be due to some other factor. Similar

symptoms have been noted in other animals and in man. All these chickens lost weight. The chickens receiving sulfapyridine and those receiving sulfathiazole presented few symptoms. Only 1 in each group was lethargic, and 4 receiving the former and 2 receiving the latter drug lost weight. All others gained weight. With sulfamethylthiazole, 3 chickens lost and 4 gained weight. Two presented weakness and a desire to squat. With sulfanilyl dimethyl-sulfanilamide, 2 lost and the others gained weight. Furthermore, 2 chickens were weak and walked with an unsteady gait. All chickens receiving sulfaphenylthiazole showed a great loss in

TABLE 2.—Comparative Pathologic Effects on the Central and Peripheral Nervous Systems in the Chicken

Drug	Total No. of Chickens	Brain		Spinal Cord		Peripheral Nerves			
						Myelin		Axons	
		Degree of Injury	No. of Chickens	Degree of Injury	No. of Chickens	Degree of Injury	No. of Chickens	Degree of Injury	No. of Chickens
Control.....	6	0	6	0	6	0	4	0	6
						±	2		
Sulfanilamide.....	6	0	6	0	3	0	2	0	5
				+	1*	±	4	±	1
Sulfapyridine.....	11	0	11	0	10	0	1	0	8
				+	1	±	5	+	2
						+	2	++	1
						++	3		
Sulfathiazole.....	11	0	5	0	4	+	4	0	2
		+	3	+	2	+	4	+	2
		++	1*	++	3	+++	3	++	4
				+++	1*			+++	3
Sulfamethylthiazole	7	0	3	+	2	±	1	0	1
		+	1	++	2	+	1	+	2
		++	3	+++	2*	++	4	++	3
						+++	1	+++	1
Sulfanilyl dimethyl-sulfanilamide	7	0	1	0	1	++	2	++	2
		+	4	+	1	+++	4*	+++	4*
		++	2	++	2				
				+++	2				
				++++	1				
Sulfaphenylthiazole	7	+	4	±	1	+	1	0	2
		++	3	+	1	++	1	+++	3
				++	3	+++	3	++++	2
				+++	2	++++	2		

* Remainder of tissues not studied.

Key: 0 = normal. Damage probably reversible: + = occasional, patchy, slight alteration; ++ = mild, diffuse but reversible changes; +++ = moderate, diffuse injury with preservation of the normal structure but with occasional axonal involvement (sometimes nonreversible). Definitely nonreversible changes: ++++ = moderately severe changes involving all structures with much injury of a permanent nature; +++++ = severe damage to all tissues with complete disruption of the normal structure.

weight. All presented weakness, coma and depression, and 2 were unable to stand even when provoked. These 2 chickens showed the most severe pathologic injury, namely a complete destruction of the normal structure of the sciatic nerve. Thus there was a clearcut correlation between symptoms and pathologic injury in only these 2 chickens. The lack of this correlation in all the other chickens is not particularly disturbing. McKinley¹⁰ has shown that in the sciatic nerve the fasciculi fuse and divide throughout the course of the nerve, so that the peripheral bundles receive fibers from many sources. Thus, unless the sciatic nerve is severely involved—and this occurred in only 2 chickens—the function of the nerve can be carried on by the remaining fibers in the intact fasciculi.

10. McKinley, J. C.: The Intraneural Plexus of Fasciculi and Fibers in the Sciatic Nerve, *Arch. Neurol. & Psychiat.* 6: 377 (Oct.) 1921.

From the standpoint of the experiments on chickens and the available clinical data on peripheral neuritis, it is our belief that any one of the drugs studied may occasionally produce nervous lesions. In support of this possibility, the following case of peripheral neuritis which may be associated with sulfathiazole is briefly described. To our knowledge no other has been reported to date.¹¹

REPORT OF CASE

R. E. C., a white woman aged 37, in December 1935 had a furuncle on her left arm, which was drained. Subsequently, roentgenograms revealed an osteomyelitic involvement of the underlying bone. This process eventually healed, but a few months later a similar condition developed in her right ankle, and since then she has had involvements of the skull, the mandible, the left tibia and the left knee joint. She was treated with multiple injections and drainage.

On admission to the University Hospital in November 1939, the patient's blood showed 32 per cent hemoglobin, 1,550,000 red blood cells, and 8,000 white blood cells. The differential count showed 66 per cent polymorphonuclear leukocytes and 44 per cent mononuclear leukocytes. The patient was given liver and iron therapy, and she received several transfusions. The hemoglobin level eventually rose to 85 per cent.

Within a few days a complete foot-drop developed, with anesthesia over the lateral surface of the right lower limb.

Two weeks after discontinuing the medication she noticed for the first time a return of dorsal flexion of her right foot and improvement in her sensory involvement. Within a week she was able partially to flex her foot dorsad, and she was able to detect superficial sensation in the involved area. Examination of her hearing at this time revealed almost complete deafness, although the patient now had a return of osseous conduction over the involved ear. During and previous to the period during which her foot-drop developed she had had no osteomyelitic involvement in this extremity, all of her trouble being confined to the left lower limb. She did, however, have a large indurated mass on the posterior aspect of the right thigh which at no time broke down or drained.

In searching for a possible explanation for the injury to nervous tissue produced by the drugs, the concentrations of four of the drugs were determined in the various tissues. Similar data for the liver and kidneys were obtained. The chickens used were from the same hatch as those used before but they were from four to ten weeks older. The drugs were given orally as described previously. The dose was either 0.5 Gm. or 0.2 Gm. per kilogram of body weight given every twelve

TABLE 3.—Analyses of Tissues of Chickens for Concentrations of Drugs in Milligrams Per Hundred Cubic Centimeters of Blood or Per Hundred Grams of Tissue

Drug and Dose (for 7 Days)	Average Concentration in Blood *		Peripheral (Sciatic) Nerve		Spinal Cord		Brain		Liver		Kidneys	
	Free	Total	Free	Total	Free	Total	Free	Total	Free	Total	Free	Total
Sulfanilamide 0.2 Gm. every 12 hours.....	12.3	20.0	41.6	60.0	52.5	52.5	16.4	31.7	27.7	49.5	38.4	44.2
Sulfapyridine (1) 0.2 Gm. every 12 hours.....	2.8	5.3	3.3	4.2	<1.0	<1.0	<1.0	<1.0	3.5	4.5	6.5	6.5
(2) 0.2 Gm. every 12 hours.....	3.4	5.2	37.4	44.8	1.4	2.2	1.0	1.8	2.6	3.6	3.7	3.7
Sulfathiazole (1) 0.5 Gm. every 12 hours.....	5.4	6.7	3.7	6.3	1.2	1.9	0.8	1.5	2.3	2.5	3.7	3.7
(2) 0.2 Gm. every 12 hours.....	4.1	4.8	37.4	40.6	1.0	1.0	<1.0	<1.0	8.3	9.0	26.4	26.4
Sulfamethylthiazole 0.2 Gm. every 12 hours.....	10.7	13.4	13.3	19.2	2.0	2.7	1.6	2.0	24.3	24.3	23.3	23.3

* Average of four determinations per chicken: two at four hours and two at twelve hours after dosage.

The patient continued to show a mild toxic picture; her temperature ranged between 98 and 100.5 F. In April 1940 cultures of the blood were positive for staphylococci. Because of the positive cultures and the persistence of toxic symptoms, the patient was given sulfathiazole 1 Gm. every four hours. After eleven days the dose was reduced to 1 Gm. three times a day. One week later, it was further reduced to 1 Gm. daily. Five days later it was increased to 1 Gm. three times a day. After seventeen days the dose of sulfathiazole was again increased to 1 Gm. four times a day. This dose was continued until the middle of September. Thus over a period of five and one-half months the patient took a total dose of about 600 Gm. of sulfathiazole. In addition to this medication, she received 2 tablets of extralin four times a day, 100 mg. of ascorbic acid daily, and 5 mg. of thiamine hydrochloride daily. The patient's blood became sterile two weeks after she was given sulfathiazole. Determinations of the levels of the drug in her blood revealed a concentration of from 1.9 to 4.3 mg. of free sulfathiazole per hundred cubic centimeters and from 2.4 to 6.2 mg. of total sulfathiazole per hundred cubic centimeters of blood. Although the patient was discharged from the hospital on August 16, she continued to take sulfathiazole for another month under supervision.

Seven weeks after the sulfathiazole therapy was begun deafness suddenly developed in her left ear. On examination this proved to be deafness of a nervous type. A few days later weakness and numbness began to develop in her right lower extremity, primarily in the distribution of the peroneal nerve.

hours for one week or more. Autopsy was performed on the chickens twelve hours after the last dose was given. The tissues were extracted by a modification of the trichloroacetic acid method described by Marshall and Litchfield.¹² For determinations of the drugs in the blood, liver and kidneys a dilution of 1:30 was used, and for peripheral nerves, spinal cords and brains, the dilution was either 1:50 or 1:100. No corrective factors were employed in the data.^{12a} The number of chickens used for these studies on drug distribution was for sulfanilamide 4, sulfapyridine 7, sulfathiazole 7 and sulfamethylthiazole 4.

The data on these 22 chickens show strikingly that the levels of these drugs in the organs studied show great variations from the average concentrations in the blood. Data are given in table 3 from only a few individual experiments. The highest and lowest concentrations of sulfapyridine and sulfathiazole observed in the periph-

12. Marshall, E. K., Jr., and Litchfield, J. T., Jr.: Some Aspects of the Pharmacology of Sulfapyridine, *J. Pharmacol. & Exper. Therap.* 67: 454-475 (Dec.) 1939.

12a. Control analyses on blood, nervous tissue, liver and kidney have been negative except for an occasional faint trace (too small to read) in blood and liver. Quantitative recoveries, within the limits of the colorimetric method, have been obtained when known amounts of sulfapyridine, sulfathiazole and their acetyl derivatives have been added to blood, nervous tissue and liver. The extraction of acetyl derivatives added to the tissues is complicated by the fact that the concentration of trichloroacetic acid used hydrolyzes a portion of the drugs; for example, in peripheral nerve extractions this amounts to 20 per cent, and in liver to 40 per cent of the added drugs. If these corrections are applied, the trend of the experimental results is not changed.

11. Dr. E. T. Evans, Division of Orthopedics, University of Minnesota General Hospital, gave the authors permission to report this case.

eral nerves of the chicken are illustrated. With the former drug, every level in the peripheral nerves was higher than its respective average concentration in the blood, but the level in the peripheral nerves of only 1 chicken was above 15 mg. per hundred grams of tissue. With sulfathiazole, the level of the drug in the peripheral nerves was below the respective average level in the blood in 3 chickens, whereas in 3 other instances the level of the drug in the peripheral nerves was above 20 mg. per hundred grams of tissue. With sulfanilamide the concentrations in the nervous tissues of 3 chickens were equal to or above the respective

TABLE 4.—Concentrations of Sulfathiazole

Blood		Peripheral Nerve (Sciatic)		Liver		Kidneys	
Free	Total	Free	Total	Free	Total	Free	Total
15.7	39.5	22.8	33.0	34.2	41.8	60.0	109.5

levels in the blood. Except with sulfanilamide the concentrations found in the spinal cord and brain were always much below those in the blood.

A similar type of distribution with sulfathiazole can occur in man, at least in the presence of depressed renal function. Adequate samples of various tissues were obtained from a patient who was operated on for carcinoma of the stomach and died from postoperative pneumonia. This patient had almost total anuria during the last six days of his life. The level of the drug in the blood remained almost constantly at the figure given in table 4 during this period. The concentrations of the drug in milligrams per hundred cubic centimeters of blood or per hundred grams of tissue are shown in table 4.

Whether the observed variations in the concentrations of these drugs in the chicken and in man are due chiefly to a cumulation from repeated doses or whether a decreased glomerular function (glomerular development in the chicken is inferior to that in mammals⁹) is necessary or merely additive is unknown at present. However, with sulfapyridine in the dog even a few hours after single doses slight rises in the concentration of the drug, compared to levels in the blood, can be discerned in various organs and tissues such as the liver, the kidneys and the peripheral nerves.¹³ Possibly a uniform distribution following repeated administration of certain of these drugs is more hypothetical than real.

COMMENT

It can be argued that the patient described here had a sufficiently extensive infection to account for her nervous involvement. This possibility is not denied. However, the occurrence of such localized nervous lesions, the presence of foot-drop (which has also been observed clinically with other drugs in this series,¹⁴ and more especially with sulfamethylthiazole⁶), the sudden improvement after discontinuance of sulfathiazole therapy and the observation of corresponding types of lesions in the chickens all seem to us to be evidence that the drug was at least to some degree responsible for the patient's neural involvement.

On the one hand, it is evident that such a toxic reaction is a hazard. On the other, this hazard at the present time does not appear to be as dangerous for the

patient as that presented by a serious infection which remains untreated.

It is to be emphasized that observations on the damage to nervous tissue produced by the various drugs of the sulfanilamide series studied in the chicken are not to be transferred directly to man. It should be emphasized that the chicken appears to be much more sensitive to the toxic effects of these drugs on the nervous system than is man. Furthermore, differences in species of animals have been noted, for Nelson² observed less injury, in his experiments, in rabbits than in chickens. Undoubtedly a similar type of injury, though much milder, as in the rabbit, can occur in man. The data in the literature seem to indicate that the frequency of peripheral neuritis in man places these drugs in a more or less systematic order similar to the classification determined by experiments in the chicken. It is hoped that with additional experimental and clinical evidence data obtained on the chicken may be of some use for a comparative evaluation of the effects of sulfanilamide and its derivatives on the nervous system.

It is not yet possible to state that any of the five drugs herein described which have been used clinically should not be used in man. There may be possible obscure contraindications, as yet unknown, for all of them. However, the question of the routine use of one or more of those producing the most serious injury is as yet practically answered in the negative. No one knows why these toxic nervous reactions occur, whether a hypersensitivity on the part of the patient is the chief predisposing factor or whether other factors are chiefly important. The tendency of certain of these drugs, at least, to accumulate in the peripheral nerves as compared with what occurs in the brain and spinal cord seems to speak against a simple hypersensitivity. Rather, it appears as direct evidence in favor of the idea of specificity of the drugs for peripheral nervous tissue, which can be correlated with the clinical and pathologic changes. The explanation of the difference in the degree of injury done by the drugs appears most logically to lie in their different chemical structures. It does appear, however, that these toxic manifestations are chronic. For this reason, when any of the drugs of the sulfanilamide series are used, physicians should observe their patients most carefully and institute every precaution to prevent any unnecessary rise in the concentration of the drug in the blood stream and any unnecessarily prolonged use of the drug. In no instance should any of these drugs be used promiscuously or without careful supervision.

ADDITIONAL CASE OF PERIPHERAL NEURITIS

After our manuscript had been submitted for publication another case of possible early peripheral neuritis in man due to sulfathiazole was brought to our attention by Dr. W. W. Spink of the Division of General Medicine, University of Minnesota General Hospitals. He has consented to the following report:

A. K., a white man aged 63, entered the University Hospital for transurethral prostatectomy, which was carried out on Dec. 8 and 20, 1939. A cholecystectomy was performed on Jan. 12, 1940. The patient had a persistent infection of the bladder caused by *Bacillus proteus*. During the period from Jan. 14 to Jan. 18, 1940 he was given 18 Gm. of sulfapyridine. Nausea and vomiting occurred. On February 1 the patient was given sulfathiazole and during five and one-half days received 27 Gm. The therapy was then discontinued because of the onset of nausea and vomiting, oliguria and tingling and numbness of the fingers of both hands. No other neurologic symptoms were observed. The paresthesia of the fingers was interpreted as

13. Chinn, H., and Bellows, J.: The Distribution of Sulfanilyl-2-Aminopyridine in the Body, *J. Lab. & Clin. Med.* 25: 735-738 (April) 1940. Marshall and Litchfield.¹²

14. Long and Bliss.⁸ Bannick, Brown and Foster.⁷

beginning peripheral neuritis. At the end of this five and one-half day period of dosage the level of the drug in the blood had risen from 3.2 mg. of free and 5 mg. of total to 13.7 mg. of free and 22.2 mg. of total sulfathiazole per hundred cubic centimeters. In spite of an adequate intake of fluid the urinary output dropped from 1,200 cc. to 100 cc. a day during this period. A week after discontinuance of therapy the gastrointestinal and nervous symptoms had disappeared, the level of the drug in the blood had dropped to 5.6 mg. of free and 10.3 mg. of total sulfathiazole per hundred cubic centimeters, and the output of urine had risen to 1,300 cc. daily. At this time the patient's blood urea nitrogen was elevated from 16.3 mg. to 34 and 53.5 mg. per hundred cubic centimeters. A week later this had dropped to 19.5 mg. per hundred cubic centimeters. The renal function was normal at this time, and the urine was sterile.

SUMMARY

1. The order of the drugs in the sulfanilamide series studied according to the amount of injury they produce in the nervous system of the chicken, beginning with the least injurious, is sulfanilamide, sulfapyridine, sulfathiazole, sulfamethylthiazole, sulfanilyl dimethyl-sulfanilamide and sulphaphenylthiazole.

2. Under certain conditions unknown at present, and after repeated doses, some cumulation of at least four of these drugs tends to occur in the sciatic nerve.

3. The case of peripheral neuritis in man reported here possibly was due to sulfathiazole.

THE INTERRELATION OF NEUROLOGY, PSYCHIATRY AND PSYCHOANALYSIS

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The relationship of clinical neurology, psychiatry and psychoanalysis as specialties of medical practice is not clearly understood by the lay public or by the medical profession. These fields are thought of sometimes as sharply isolated, are often confused with one another, or are considered together as one special branch of medicine. I consider that they are intimately interrelated, and my thesis is that the future progress of all three in practice and research is dependent on a diffusion through the artificial boundaries of the fundamental principles, methodologies and recognized facts of each. The integrated neuropsychiatry that results will be a legitimate member of the medical sciences broad enough to include normal and abnormal psychology hitherto largely ignored by medicine.

By accepted definition, clinical neurology is that branch of medicine concerned with the investigation, methods of examination, diagnosis and treatment of organic diseases of the nervous system. Its techniques, although specialized, are similar to those of internal medicine. Psychiatry deals with the investigation, description, diagnosis and therapy of disturbances of mental processes concerned with intelligence and emotion, no matter what their origin, and its techniques are largely psychologic in a descriptive sense, for study is made of verbalisms and behaviorisms. Medical psychoanalysis investigates, diagnoses and treats unconscious dynamic factors which influence emotional expression, behavior and thought processes. Its technic is a highly specialized type of psychology—analysis of behavior, free associations and dreams—adapted to the goal of understanding the unconscious. The overlap and possible

integration of these three fields in clinical practice at once become apparent. Many organic diseases of the nervous system such as dementia paralytica and cerebral neoplasms manifest themselves partially or entirely by mental abnormalities or disorders of behavior. The specific psychiatric syndrome that a patient presents is not explicable by understanding the organic changes alone but in addition by determining the individual unconscious factors in that patient. Furthermore, psychiatric syndromes known as functional neuroses and psychoses, for example the compulsive neuroses, can be understood or treated only by exposing the underlying unconscious emotional basis.

To some it seems hardly necessary to point to such overlap or to discuss interrelations and integration, yet antagonism of the strongest type was still fiercely expressed in 1939 in the utterances of specialists within all three fields. A psychiatrist recently published the results of a questionnaire in which one item asked whether psychoanalysis was completely accepted, as if one could accept a scientific discipline as a divine law. A neurologist pleaded for neuropsychiatrists who have adhered to orthodox doctrines to hold their forces well in hand for an impending battle to keep neuropsychiatry on a sound organic basis. This sounds as if the author anticipated a revolution to which he reacted with fear rather than scientific objectivity. A psychoanalyst stated that pharmacologic shock represented the expression of an ancient trend of conscious and mostly unconscious hostility against the mentally ill. To him drastic methods to alter the cerebral chemistry or cerebral blood flow made the physician employing them sadistic.

I believe that physicians have developed to a degree at which such antagonisms should have become historical and integration of the disciplines of neurology, psychiatry and psychoanalysis feasible, because a rational understanding of the problems of the human mind are possible only by using the scientific and empiric knowledge of all. I hope to demonstrate that the basic principles and clinical methods of interpretation of dynamic neurology and psychiatry are identical—that both neurologic and psychologic phenomena are explicable by the same fundamental biologic laws.

Clinical neurology is most closely allied to internal medicine although, as I shall point out later, there are important basic differences. Its groundwork traditionally is morphology—comparative anatomy, embryology and gross and microscopic anatomy. The structure and interconnections of various parts of the peripheral and central nervous system have been carefully studied and most of the larger fiber tracts described. By no means is the entire, complex anatomy known, since a large portion of the finer systems of unmyelinated fibers are yet to be traced. The first conjectures as to function of separate parts of the nervous system were made from morphologic investigations. Later physiologic studies on experimental animals and at the bedside opened much greater areas of knowledge regarding the nervous system, and recent technical advances such as the oscillograph and the electroencephalograph have facilitated determinations of finer details of function. However, studies of physiology and pathophysiology of the human nervous system have lagged far behind work on experimental animals, which cannot be transposed to man because his higher centers have taken over many functions residing in the lower centers of other mammals (encephalization).

The study of neuropathology received its greatest stimulus from the cellular pathology of Virchow and

the development of special staining technics. Although neuropathology was a great catalyst for the development of clinical neurology, it at the same time hindered the progress of physiology of the nervous system and placed an almost ineradicable bias on generations of neurologists. In the first place anatomic aspects were used as physiologic evidence. Given a clinical syndrome of neurologic defect and at necropsy a damaged structure, then in that structure the function which had been clinically disturbed was supposed to reside. Innumerable mistakes were based on such reasoning because the complexity of functional interrelations within the nervous system was neglected and only morphologic alterations visible under the microscope were relied on. In the second place, the neurohistologists Nissl and Alzheimer, after developing special staining methods to disclose detailed alterations within the nerve cells, believed that specific changes in ganglion cells could be correlated with specific diseases. This has not been confirmed for a single morbid entity. The new neuropathology, which had great scientific appeal because of the use of high power microscope lenses and thus gave an appearance of objectivity, attempted to explain psychiatric as well as neurologic disorders on a purely morphologic basis. The concepts arising therefrom slowly disintegrated and even now tend to flourish for a time among various groups, although the expectation for an organic basis of all nervous disorders has become displaced from microscopically detectable changes to the finer physical chemistry of the cell structure.

Psychiatry has for long been the weak sister of medicine largely because of man's defensive emotional attitude toward his own emotions. It was only one hundred and forty-eight years ago that Pinel's influence lessened the severe hostility displayed against the mentally ill. Only recently have psychiatrists been permitted the privilege of using hospital facilities wherein the full cooperation of the laboratory and clinical sciences could be obtained. Until the last century only a few psychiatric syndromes had been delineated from the chaotic and confusing clinical manifestations of the so-called lunatics. In 1883 Kraepelin inaugurated the first clinical classification in psychiatry based on descriptive life histories; a modified and amplified version of this is still used in the psychiatrist's diagnostic terminology. Under the influence of the then new discoveries in cellular pathology, Kraepelin attempted to link the nosologic entities with specific cellular changes in the brain. Thus the first step of psychiatry toward a scientific etiology was in the direction of pathologic anatomy.

In this country a more holistic concept of etiology was advocated in the early decades of this century by Adolf Meyer, who insisted that all the psychologic effects of environment, conflicts and frustrations were equal in importance to endogenous constitutional factors and pathologic changes in the causation of mental disorders. But even today psychiatry is largely descriptive except when it borrows from biochemistry research technics of precision which have given false promise in solving the problem of etiology in mental illness. The field has become static just as far as psychiatrists have been content to utilize the descriptive methods of academic psychology and kraepelinian psychiatry for their clinical investigations and overlook the dynamisms of human emotions.

Psychoanalysis is the youngest of the three fields under discussion, for Freud's first contributions were published only a little more than forty years ago. His

original works evoked a bitter and emotional controversy, the sense of which has long since been lost, for today medicine has become mature enough to grasp the significance of unconscious emotional factors, and psychoanalysts have begun to understand their own relationship to medicine. The early rejection was strongly tinged with hatred, due probably to the difficulty of even psychiatrists facing their own unconscious drives. The result was a forced isolation of the freudians, who were compelled to form their own groups and societies apart from the universities and other medical contacts, and although these circles have continually widened they have always remained small and relatively inbred. However, of equal importance in this separation from biology was Freud's own dictum that psychoanalysts should concern themselves only with psychologic matters, the biologic origin of which should be left to investigators in other fields. This unfortunate isolation has been rapidly overcome in this country by psychoanalysts less orthodox than the original European groups and by the gradual penetration of psychoanalytic dynamic concepts into static descriptive psychiatry.

Many of the original freudian concepts will be discarded and much will be modified. However, the basic concepts of unconscious mental forces, conflicts and repression will probably persist as fundamental principles in psychology. The theory of instinctual forces in psychology may be abandoned and infantile sexuality reinterpreted as phenomena of gradients of growth, but the general idea that emotional forces within the realm of the unconscious are responsible for the direction of activities in the field of thought and behavior continues to receive confirmation. These drives or forces of biologic origin push man into activities which meet with prohibitions from his social and cultural environment; the result of this is a conflict the solution of which necessitates modification, sublimation or repression. This epitomizes the battle of each individual's lifetime.

As one proceeds from neurology through psychiatry to psychoanalysis one can discern a gradation of increasing deviation from the basic facts of anatomy and physiology susceptible of experimental proof. From a science resting directly on the foundations of biology to the descriptive field of psychiatry concerned with classification, one arrives at more abstract, nevertheless scientific, concepts concerned with dynamic factors involving intangible forces of energy. These are expressed in symbolic language and acts, highly individualized for each person but susceptible of abstraction into common laws. Yet each field deals with identical problems—the functions of the human nervous system. Brain and mind can be understood only by observing the identity of the natural laws which regulate both, the former in terms of space and time, the latter as subjective reflections of the same physiologic processes. Their scientific vocabularies may vary, but to me at least it is obvious that the laws of psychology must be identical with those of physiology, for mind is no epiphenomenon but a concomitant of the function of definite anatomic structures.

In comparing neurology with psychoanalytic psychiatry I do not consider the static pathophysiology of the last century as representative of neurology but speak of the dynamic neurology vigorously developing in this country today on the foundations laid by John Hughlings Jackson. He was the great stimulant of the English school who thought out crucial animal experiments for his younger colleagues to perform in the laboratory but himself remained at the bedside. Jackson conceived of

the nervous system as a gradually developing hierarchy which he roughly divided into three levels corresponding to their evolutionary significance. He stated that the highest nervous centers, the climax of this evolution, are in popular language "the organ of the mind" and insisted that this "organ" functions as much on the basis of reflex activity as the lumbar enlargement of the spinal cord. He believed that the constitution of the highest centers differs vastly in degree from that of the lowest center, for they represent most indirectly all parts of the body in most numerous and more complex combinations.

The highest level of the organ of the mind Jackson located in what is now termed the frontal associative area, but this does not mean a localization of mental processes or consciousness within a specified anatomic area. Since the highest centers represent the whole organism, they are widely detached and protected from the sensory periphery and the muscular system. The highest centers are thus permitted to act without interruption or disturbance and need not participate in lower-most automatic functions. Through such isolation slower, more adaptive symbolic formulation and delay in expression are achieved by the highest levels.

Nervous integration at the lowest levels is represented by varying combinations of reflexes, on the synapses of which many influences exert modifying effects. Recent evidence points to chemical substances, accumulated at the synapses, which are responsible for inhibition and augmentation of reflex activity. This type of inhibition may be termed biologic and, fulfilling certain patterns to a great extent phylogenetic but not clearly understood, is at the basis of shifts of activity within the central nervous system. It is possible that the physico-chemical forces playing on the lowest cellular levels may be compared to and perhaps in the future identified with the forces and drives which Freud postulates as so important in the psychic activity at higher levels and which he too stated conform to reflex activity.

Within the lower levels there proceeds much activity which never reaches consciousness directly or at all. By means of inhibition, incoming stimuli may be prevented from evoking a simple intrasegmental response and diverted by a process of "long-circuiting" to higher levels within the neuraxis so that the simplest, most immediate responses are delayed or modified. There is good evidence to suggest that some long-circuiting is always present, and on its quantity depend the degree of delay and the quantity of extinction of the reflex and the amount of involvement of the higher level resulting in consciousness of the stimulus and awareness of its significance.

As the nervous system became more complicated in the process of evolution, newer cephalic structures developed, toward which representations of lower functions wandered in the process called "encephalization." The development of newer and more adaptable functions was accompanied by alterations in activities of lower structures. Such modifications were in the nature of inhibitions from above. Thus evolution not only brought in new positive factors but held or damped down older functions, often extinguishing them completely. To give an example in the motor sphere: The infant shows little voluntary control but purposeless, random movements, lively deep reflexes and phylogenetically old defense reflexes, including the Babinski response, all evidence of uninhibited activity of the lower level. Maturation of the cortex puts the motor system under voluntary control, abolishes the choreoathetoid, old

movements of the motor system, reduces amplitude of the reflex and converts defense flexion reflexes into extensor stepping responses. The latter evolved level adds fine voluntary individual movements and at the same time inhibits older types of activity. These activities of the lower level reappear only when control by the cortical higher level is disturbed in disease—in the foregoing example, when lesions of the premotor cortex result in the loss of fine voluntary motor control and the reappearance of choreoathetoid movements. Symptoms then manifest themselves within two spheres: The negative factor is the loss of function which resided in the damaged structure; the positive factor is the release of function normally inhibited by the damaged structure. The former is often of lesser importance because of compensations and vicarious functions by other structures; the latter usually dominates the clinical picture. It is this combination of negative, positive and compensatory factors that places the reasoning and rationalizations of neurology on a basis different from that of internal medicine.

Using the epilepsies as examples, Jackson showed that dissolution of the nervous system need not be due to an anatomic lesion. After an attack, the postepileptic phenomena demonstrate both the negative and the positive aspects of dissolution. In the functional fatigue of higher centers following exhausting excitation, all the phenomena of release can be observed temporarily.

Evolution of the nervous system recapitulated by the individual in his process of maturation is accompanied by a corresponding process in behavior and the emotional life. According to the degree of long-circuiting possible and the quantity of encephalization of function, animal species show a degree of inhibition of stereotyped immediate reflex behavior and a more delayed adaptive response to external excitation. The developing infant shows in his behavior evidences of activity of the lower level in stereotyped responses to many stimuli, quantitatively excessive responses and inability to delay activity. He passes through many stages of behavior which can be graded quantitatively according to the aforementioned criteria and in relation to his needs at various chronologic periods of growth. His life in a civilized world, however, demands that he give up long before he is ready the gratifications of behavior prompted by the lower level. As his cerebral cortex develops, his ego may bear deprivation and delay in activity. Excessive responses and immediate behavior are supplanted by delayed adaptive verbal expressions or rational acts. Thus psychologically the older, more directly gratifying activity is inhibited or repressed and the activities of the higher level of the ego become dominant.

The prohibitions of external realities force an inhibition or repression of the direct expression of the drives or forces typical of all animal life. In psychologic repression one meets with a quantitative factor which makes the end result different from neurologic inhibition. The animal or instinctual forces are of tremendous strength and are kept from direct expression with difficulty. Civilization, no matter how it arose, has not yet evolved in man an ego sufficient to repress successfully the old activities, as the present worldwide outbreak of beastlike hostility amply demonstrates. Cultural environment demands repression, instincts demand direct expression and man finds himself not yet biologically adapted to the former, so that a continuous struggle between his levels of neural organization involves him in psychologic dilemmas for

which he attempts many, often disastrously unsuccessful, solutions termed neurotic or psychotic.

One may consider the phenomenon of this great conflict similar in nature to the intense neural excitation which precedes the motor aspect of an epileptic fit. When the extraordinary excitation has passed, consciousness is lost and the discharge passes into lower motor levels. Excessive excitation without adequate discharge results in fatigue and paralysis. In periods of conflict excessive psychologic excitation results which cannot be discharged by the ego. The pressure of emotional drives meets resistance from without, and functions of the ego become fatigued or paralyzed. There result two aspects, as in any neurologic lesion. The negative is evidenced by the fact that the instinctual drives are not expressed through the highest level in highest symbolic expression—words or gestures. The positive aspect finds its expression through lower levels now permitted to act by the release from the higher, inhibiting functions. As in the somatic sphere the positive aspects dominate the picture in the new phenomenon of symptom formation or "return of the repressed." The negative aspect or deficiency is likewise compensated for by other functions, although not influencing the quantity of release. The ego's deficiency and compensations for it are spoken of as "reaction formation."

The psychoanalytic theory of symptom formation depends on the concept that the repressed or undischarged energy escapes elsewhere than through the motor activity of the ego—that it returns modified as a symptom. In neurologic terms Jackson stated that diminished action in one part of the nervous system results in exalted action in another part, but this so-called new action takes place on a lower level. Neurologically, release of lower levels results in a greater preponderance of visceral participation in reflex activity. Psychologically, verbal expressions and direct motor activity of the somatic nervous system are replaced by autoplasmic innervations, what may be roughly stated as "turning one's emotions against oneself," producing disturbances of function of the internal visceral organs innervated by the autonomic nervous system. It seems clear that regression to lower levels of psychologic activity has a particular applicability to the mechanisms of organ neuroses.

Effect of therapy indicates that these functional changes are at least in the early stages reversible. The symptoms can be caused to disappear and regression at least partially removed by reestablishing the functions of expression of the higher levels which are not destroyed but are in a state of functional paralysis. Regression is at an end when the function of the ego in symbolic expression is reestablished, in other words when exteriorization of instinctual drives may take place through the highest level, which when functioning resumes its inhibiting influences on lower levels anew.

In devolution of the nervous system in disease processes, repression has been seen to be synonymous in its effects with release of inhibition, resulting in regression to lower levels of activity. In the various degrees of long-circuiting from lower to higher levels within fairly fixed neural pathways, repression of simple reflex activities has been termed inhibition. Moreover, like repression at higher levels, the results are a negative factor in that activity fails to be a simple response over a securely fixed pathway, and a positive factor in that activity at higher levels is permitted. One can then state that both repression and inhibition indicate a nega-

tive factor, in that a certain level of activity is abandoned, and a positive factor which results from or is permitted by the shift of activity from one portion of the nervous system to another. It is on this basic principle that both clinical neurology and psychoanalysis are able to explain the phenomena of so-called disease entities expressed in the form of either physical or psychologic symptoms.

Two other neurophysiologic phenomena become apparent when the psychoanalytic concepts of conflicts and their therapy are considered. Psychologic conflict originates when the immature nervous system and corresponding weak ego are forced by external agencies into exerting repressing influences on the child's normal instinctual activity. These agents are external and by repetition of their demands cause the phenomenon of repression to become permanent. This is identical with conditioning, for the child unconsciously and automatically perpetuates these early patterns of behavior. Psychoanalysis terms this conditioning or internalization of one time external voices of authority as the creation of a superego. In therapy, possible in adult life when functions of the ego are stronger, removal of conditioned responses or deconditioning the superego by permitting gradual testing of a less prohibitory and strict reality, excitation can again be discharged through the highest levels and neurotic symptoms or activities prompted by the lower level abandoned. This is one of the fundamental principles of psychoanalytic therapy.

Facilitation is a process of gradual lowering of the threshold of excitation by repetitive stimuli. Electrically stimulating the motor cortex may at first produce only a local response, but if it is continued a generalized convulsion ensues. Such facilitation is evidenced psychologically by gradual mounting tensions breaking through to the expression of a violent emotion. The subthreshold stimuli may be entirely unconscious and the final discharge as surprising to the subject as to those around him. Such subthreshold stimuli are reproduced in therapy by psychologic interpretations which gradually build up tensions within local areas of the cortex, finally swelling up to a discharge in behavior or words which permit to enter consciousness activities which were neurotically active at visceral levels. After breaking into consciousness the deconditioning efforts of the therapist permitting and accepting such impulses allow them to be understood and more adequately dealt with.

These dynamic expressions of interplay and shift of activities within levels of the nervous system indicate the identity of the fundamental neurologic and psychoanalytic principles. I have spoken theoretically of interplay among such levels without indicating their concrete existence and without commitment as to localization of emotional and intellectual functions. It is valuable to turn to the hypothalamus and cerebral cortex in considering those functions. Hypothalamic functions are concerned with emotional expression, regulation of endocrine and visceral activity and degree of consciousness. A tremendous amount of work has been done on this structure but little interpretation of the results in furthering our concepts of a dynamic interplay between emotions and intelligence.

The hypothalamus is a small structure lying at the base of the brain under the thalamus between the optic chiasm and the cerebral peduncles. It contains the tuber cinereum, mamillary bodies and infundibulum and forms the base of the third ventricle. Within it are several nuclear masses easily distinguishable and many

other cells not easily demarcated into nuclei. The hypothalamus is closely allied with the old olfactory system through the fornix and mamillothalamic tracts, with the midbrain by descending fibers, with the hypophysis, with the thalamus and indirectly with the neocortex.

The hypothalamus is an effector structure receiving its afferent supply from the thalamus. It regulates and integrates autonomic activity and is thus concerned with sleep, regulation of bodily temperature, metabolism of minerals, carbohydrates, fats and proteins, water metabolism and reproduction. Thus it regulates and integrates conserving autonomic functions. However, at this time I wish only to discuss its position in relation to cortical activity.

It has been shown repeatedly that removal of the structures anterior to the hypothalamus—removal of cortical influences—results in wild, uninhibited activity which has been termed sham rage. Such emotional activity can be reproduced by direct stimulation of the posterior hypothalamus, making it clear that this violent emotional expression is inhibited by the cerebral cortex and that the center for the integration of visceral and somatic components for emotional expression lies in the hypothalamus. Damage to this area causes apathy and a sort of catalepsy with somnolence.

Numerous clinical observations in man indicate that tumors and infections damaging corticohypothalamic connections release hypothalamic activity and cause signs of aggressive destructive ragelike behavior. In development one observes impulsive, uncontrolled emotional expressions in infancy and childhood before the cortex has sufficiently matured to function as an inhibitor of hypothalamic activity. The hypothalamus as a central integrator of the autonomic nervous system has become the cephalic representative of its visceral activities subjectively expressed in emotional drives and forces and is only temporarily permitted free expression.

In psychological language, the child is driven by his instincts, which are held in check only by a process of cortical learning induced by environmental admonitions and prohibitions. Such learning is possible only when the cortex is matured and to a degree dependent on its functional capacity, which is to a large extent innate. This function of adaptation is attributed to the psychologic ego, which is the subjective correlate of activity of the cerebral cortex. Functions of the ego are of many grades of efficiency, from the weak, easily overwhelmed by hypothalamic activity, to the overly strong, which hold down most of the biologic emotional drives and result in a rigid, perfectionistic, supermoral character. This degree of activity is dependent not alone on the quality of the cortical structure but also on the type of conditioning to which it has been exposed from the psychologic influences of the early environment.

The cortex thus inhibits the hypothalamus and releases it in phasic responses for activity in emotional expression initiated by specific internal and external stimuli. Let us examine the influence of the hypothalamus on the cortex itself in order to determine the forces which require modification and expression:

Stimulation of the hypothalamus in the cat and in man causes an excitation of the potentials of cortical action in varying degrees, depending on the strength of the stimulus. Intense stimulation results in the cortical waves becoming faster, gigantic and in synchrony or phase with those of the hypothalamus. Drugs, such as epinephrine or metrazol, having a sympathetic stimulating effect likewise augment cortical activity. Drugs

having a depressing effect on the hypothalamus, like pentobarbital sodium or pilocarpine, have a depressing effect on the cortex. Thus the hypothalamus is like a driver or excitor of the cortex, which is in conformity with the recent experimental work indicating that sleep is an inhibition of the hypothalamic centers for wakefulness.

Psychologically these experiments assume importance, for a patient given an emotionally significant verbal stimulus reacts as if his hypothalamus were electrically stimulated. Furthermore, in both electrical and verbal stimulation bursts of activity reappear from time to time similar to disagreeable ideas convulsively popping up in one's mind despite attempts at forgetting. One may state that in experimental hypothalamic studies there has been shown a neurologic basis for the overwhelming of intellectual processes by emotional activity and that the hypothalamus is a reservoir for prolonged excitation and a chronic effect on the cortex and periphery.

Psychoanalysis has shown that attempts at repression, that is, inhibition of more emotional instinctive behavior, are by necessity characteristic of all mankind. Failure or success is a relative matter, and neurosis is universal, varying in degree, dependent on how repressed or unconscious energies can be dealt with. Experiments demonstrate conclusively that hypothalamic activity in variable degree activates cortical functions and that there is an inhibition of the hypothalamus by the cortex and a driving of the cortex by the hypothalamus. Thus a relationship exists in a dynamic physiologic interplay between these structures identical with the dynamic interplay between ego and unconscious emotional drives, the quantitative and qualitative result of which is evidenced in the severity and type of neurosis.

Where dynamic clinical neurology and psychiatry have reached their closest point of fusion in the present is in psychosomatic medicine. This field has for its object the study of the interrelation of the psychologic and physiologic aspects of normal and abnormal bodily functions with a rational therapy as its ultimate goal. It approaches the problems of etiology and therapy in general medicine from a psychologic point of view. It takes for granted that psychic and somatic phenomena are part of the same biologic system. There can hardly be any doubt that the specific apparatus concerned in the unity of effect portrayed in psychologic and somatic disturbances is the nervous system. One may study the process by the technics of psychology or physiologic methods of internal medicine or neurology, but one is always expressing one side of the problem—both are necessary for an adequate and complete understanding.

The psychoanalytic view of organic neuroses is that emotional tensions require adequate cortical activity of the highest level for their relief; if repressed, they find expression in somatic symptoms which are simply substitute attempts of the lower level at relief of emotional tensions. These symptoms disappear if the repressed emotion is made conscious. When the emotional tensions are not relieved they become chronic and result in bodily changes. These repressed tensions and ultimate bodily changes take place within the sphere of the vegetative nervous system for the reason previously outlined.

In the early days of psychoanalysis interest was largely centered on those aspects of bodily symptoms affecting the voluntary nervous system which are classified as hysteria. Gradually interest veered to those symptoms and signs of disorder of the visceral organs

innervated by the autonomic nervous system. The patient with attacks of anxiety accompanied by tachycardia, hypertension, perspiration, diarrhea, polyuria or dysmenorrhea was readily acknowledged to be suffering from a neurosis. It was only vaguely indicated that emotional factors played some role in the syndromes of diabetes mellitus, peptic ulcer, colitis, migraine, hypertension or bronchial asthma. Emotional factors were believed to act by exaggerating these conditions, or the organic illness reversibly increased the patient's nervous instability. It is only lately that the possibility has been advanced that these syndromes which arise as evidences of disturbed function of visceral organs may be caused by emotional conflicts. It is on this future phase of medicine—psychosomatic medicine—that psychoanalysts such as Alexander and his co-workers are now busy.

The fundamental thesis is this: Intrapsychic conflicts may result, after repression, in activities of the lower level which engaged the activity of the autonomic nervous system. The results are contractions of smooth muscles the chronicity of which leads secondarily to organic changes in the visceral organs. These organic changes are thus terminal events in a causal change whose beginning is a psychologic conflict which forces neural activity to adopt a regressive pathway rather than a direct or verbal higher level expression.

The selective nature of the functional change and secondary organic effect is a problem which requires careful correlation with specific emotional conflict. Such correlations are in the process of study, although some have already been elucidated.

Sufferers from peptic ulcers react from a conflict between their unsolved, passive, dependent attitudes and their self-respecting aggressiveness and independence. The former is not permitted expression of the higher level in verbal longings or behavior, thus necessitating continuous innervation of the upper portion of the gastrointestinal tract, the organ of passive intaking. Long-continued chronic stimulation of the smooth muscle of the stomach and its glands leads to an organic breakdown and the formation of an ulcer.

In certain persons conditioning has resulted in an inhibition of the direct verbal or active expression of rage through the innervation of the voluntary nervous system. The whole emotional process plays itself out within the autonomic nervous system, as evidenced by hypertension. At first this fluctuates as the emotional stimuli impinge on the individual, but the long-continued effect may result in organic changes in structures which perpetuate the hypertension and set up a chain of events which ends in malignant alteration in a whole group of organs. The morphologic alterations evidenced at necropsy are the last events in a whole series of consequences of emotional conflicts incapable of direct expression.

Medicine has valiantly sought to make the greatest use of cellular pathology in an explanation of disease, but it has never been satisfied that the entire story of the so-called degenerative diseases was known. Constitutional and hereditary factors have been too evasive to be permanent concepts. What are dismissed as constitutional are individual factors more dynamically expressed as the result of the interaction of a specific organism with problems and frustrations of life that set into activity, through failure of adaptations of the whole organism, a series of events that ends in disease. Such failures, which are attributed to constitution, allergy and lowered resistance, are but expressions of

a dynamic interplay between the total organism and the environment. Such a concept is not mystic or vague but utilizes the soundest of biologic concepts. It brings disease into relationship with a system of energies valid and dynamic and gives one optimism that the hopeless category of constitution may be replaced by a factor amenable to therapy. Medicine may return its attention to treatment of the spirit of the total organism without fear of losing its scientific attitude and without fear of becoming mystic and returning to demonologic concepts. The study of the patient as a whole—the personality as the expression of the unity of the organism—becomes the right and duty of the medical man.

I could not possibly present the entire interrelation of neurology, psychiatry and psychoanalysis in one brief communication. Therefore I chose to indicate the identity of their basic principles, exemplified by a discussion of the physiology of hypothalamic-cortical or emotional-intellectual dynamic interplay. Finally, I have indicated that the basic neurologic-psychologic concepts have now pervaded medicine in an attempt at furthering the study of the etiology and therapy of many obscure internal diseases. Thus neuropsychiatry expands beyond its limited interest in purely neurologic diseases or purely psychologic disorders and contributes in a practical manner to the field of medical therapeutics.

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USE OF DIGITALIS TO PREVENT EXAGGERATED ACCELERATION OF THE HEART

DURING PHYSICAL EXERCISE IN PATIENTS
WITH AURICULAR FIBRILLATION

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The ventricular rate serves as the chief guide to the degree of digitalization of patients with auricular fibrillation. The customary procedure is to give enough digitalis to reduce the rate of the ventricles to about 70 beats a minute and to maintain it at that level. It is well known, however, that if this result is attained with the patient at complete physical rest the rate in some cases mounts considerably when the patient is up and about. Furthermore, it may show wide fluctuations with moderate effort. Sir Thomas Lewis¹ stated: "Although it is usually possible to control the rate in cases of auricular fibrillation, when the patients are at rest or quietly exercising, it is rarely possible to control the rates adequately in conditions of freer exercise." In a recent report by Weinstein, Plaut and Katz² a contrary observation was made. In a previous study³ it was found that the same resting level of the heart rate can be attained in auricular fibrillation by either of two mechanisms of the action of digitalis, one of these

From the Department of Pharmacology, Cornell University Medical College, and the cardiac clinics of the Hospital for Joint Diseases and of Beth Israel Hospital.

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requiring larger doses than the other. When the rate is reduced to about 70 a minute by moderate doses of digitalis atropine abolishes the slowing (chiefly "vagal" action), but when larger doses are used by the same person atropine causes relatively slight acceleration (chiefly "extravagal" action).

It seemed possible that these observations might have a bearing on the practical problem of preventing the extreme fluctuations in heart rate due to physical exercise in patients with auricular fibrillation under the influence of digitalis. They suggested that extravagal digitalization might accomplish this. A related problem was how one might best determine clinically whether

whether the slowing is produced by the "vagal" or the "extravagal" mechanism.

The present study is an endeavor to secure an answer to the foregoing questions. We compared the cardiac acceleration caused by vagal paralysis with that caused by physical exercise to the point of extreme fatigue in patients with auricular fibrillation before administering digitalis, during "vagal" and during "extravagal" stages of the action of digitalis.

METHOD

In all, twenty-seven experiments with atropine and a similar number with physical exercise were carried

TABLE 1.—Condensed Protocols of Cases in This Study

Patient	Sex	Age	Diagnosis *	Daily Dose of Digitalis Preparation	Resting Ventricular Rate	After Atropine		After Exercise	
						Maximum Ventricular Rate	Acceleration, Beats per Minute	Maximum Ventricular Rate	Acceleration, Beats per Minute
A. A.	♂	76	Arteriosclerosis, enlarged heart, sclerosis of aorta, 3D	None.....	100	170	70	170	10
				Digitalis leaf, 4 cat units	90	170	80	190	100
				Digitalis leaf, 6 cat units	60	130	80	110	60
J. W.	♂	66	Arteriosclerosis, enlarged heart, coronary sclerosis, 3D	None.....	130	170	40	140	10
				Digitalis leaf, 2 cat units	80	120	40	90	10
				Digitalis leaf, 4 cat units	60	90	30	65	5
W. S.	♂	63	Syphilis, enlarged heart, 2C	None.....	115	175	60	180	65
				Digitalis leaf, 4 cat units	100	140	40	120	20
				Digitalis leaf, 4 cat units	90	100	10	110	20
				Lanatoside C, 0.75 mg...	80	170	90	180	100
E. P.	♀	32	Rheumatic fever, enlarged heart, mitral stenosis, mitral insufficiency, 3D	Digitalis leaf, 2 cat units	110	170	60	150	40
				Digitalis leaf, 4 cat units	60	120	60	130	70
C. F.	♀	52	Rheumatic fever, enlarged heart, mitral stenosis, mitral insufficiency, 3D	None.....	60	110	50	130	70
				Digitalis leaf, 2 cat units	50	90	40	100	50
				Lanatoside C, 0.75 mg...	74	121	47	126	52
J. C.	♂	77	Arteriosclerosis, enlarged heart, sclerosis of aorta, 2C	None.....	110	170	60	160	50
				Digitalis leaf, 4 cat units	90	115	25	110	20
M. G.	♀	19	Rheumatic fever, enlarged heart, mitral stenosis, mitral insufficiency, aortic insufficiency, 2C	None.....	100	180	80	150	50
				Digitalis leaf, 3 cat units	60	140	80	145	85
D. C.	♂	54	Rheumatic fever, enlarged heart, mitral stenosis, mitral insufficiency, 3D	None.....	50	90	40	110	60
				Digitalis leaf, 3 cat units	70	110	40	110	40
				Digitalis leaf, 6 cat units	50	100	50	80	30
				Digitaline Nativele, 0.2 mg.	51	88	37	114	63
F. M.	♂	44	Rheumatic fever, enlarged heart, mitral stenosis, mitral insufficiency, 2C	Digitaline Nativele, 0.2 mg.	62	120	67	118	56
				Digitaline Nativele, 0.2 mg.	55	122	67	109	54
R. K.	♀	38	Rheumatic fever, enlarged heart, mitral stenosis, mitral insufficiency, 3D	Digitaline Nativele, 0.4 mg.	50	112	56	115	59
T. S.	♀	57	Rheumatic fever, enlarged heart, mitral stenosis, mitral insufficiency, 3D	Digitaline Nativele, 0.2 mg.	66	103	37	133	72
Averages.....					77	130	53	128	51

* The diagnoses are made in accordance with the "Nomenclature and Criteria for Diagnosis of Diseases of the Heart" (New York Heart Association, 1939).

the ventricular rate is under "vagal" or extravagal" control after the administration of digitalis. This could be done by means of the atropine test, but it is not always practicable because the necessary dose is 2 mg. of the sulfate by intravenous injection,³ and that dose often causes distressing symptoms.

The question, then, was whether the ventricular acceleration during physical effort is due to decreased vagal tone or to other factors. If the acceleration after exercise in digitalized patients with auricular fibrillation is due only to decreased vagal tone, one would expect that the exaggerated acceleration would not occur in patients digitalized by the "extravagal" mechanism, for in these cases vagal tone plays little part in the slowed rate. If, on the other hand, the acceleration in these patients is due solely or chiefly to some other factor, one would expect it to take place irrespectively of

out on 11 ambulatory patients with auricular fibrillation showing varying degrees of heart failure. These included 3 patients with arteriosclerotic heart disease, 7 with rheumatic heart disease and 1 with syphilitic heart disease. There were 6 men and 5 women, and their ages ranged from 19 to 77. All had been under our treatment at the cardiac clinics for years. Each patient rested lying down until the ventricular rate reached a constant level, which was taken as the control rate. This was followed by the physical exercise, which consisted in walking rapidly up several flights of stairs until the patient complained of extreme fatigue and felt unable to go further. At this point a count of the ventricular rate was made. This was followed by a period of rest of thirty minutes. Then a dose of 2 mg. of atropine sulfate was injected intravenously. This dose is sufficient to block the vagal endings com-

pletely.³ The ventricular rate was counted immediately after the injection and continuously during the next five minutes. The maximum rate was taken as the full effect of the atropine. The ventricular rates were counted by means of the stethoscope at the apex in some cases and in twenty of twenty-seven experiments they were counted from strips of electrocardiogram.

The foregoing procedures were carried out after digitalization in all cases and also before digitalization in 7 of the 11.

In most instances a standardized digitalis leaf was used in the form of compressed tablets. The potency was 80 mg. per cat unit. In 2 cases tablets of lanatoside C were used and in 5 cases tablets of digitoxin.⁴ These

TABLE 2.—Comparison of Maximum Rate After Atropine with That After Physical Exercise After Varying Doses of Digitalis

Patient	Maximum Ventricular Rate After		Ventricular Rate During Rest
	Atropine	Exercise	
	(A) No Digitalization		
A. A.....	170	170	100
D. C.....	90	110	50
J. W.....	170	140	130
J. C.....	170	160	110
W. S.....	175	180	115
M. G.....	180	150	100
C. F.....	110	130	60
Averages.....	152	149	95
(B) Predominantly "Vagal" Digitalization			
A. A.....	170	190	90
D. C.....	110	110	70
J. W.....	120	90	80
J. C.....	115	110	90
W. S.....	170	180	80
M. G.....	140	145	60
C. F.....	121	126	74
E. P.....	170	150	110
R. K.....	112	115	56
F. M.....	129	118	62
Averages.....	136	133	77
(C) Predominantly "Extravagal" Digitalization			
A. A.....	130*	110	50
D. C.....	100	80	50
J. W.....	90	65	60
W. S.....	100	110	90
C. F.....	90	100	50
E. P.....	120*	130	60
T. S.....	103	138	66
Averages.....	105	105	60

* These 2 cases are included in the "extravagal" group even though a large vagal element still persists, because a much more marked vagal response was present at another stage, as seen by the results with the same cases in group B.

were dispensed in the clinic in suitable numbers, and patients were directed to take them daily in a single dose. The experiments were performed after the patient had received a given daily dose for a period varying from one to three weeks.

RESULTS

In table 1 are assembled the details of the experiments on the 11 patients. It may be noted that the effect of atropine on the ventricular rate, as well as that of exercise, varies in the same patient and in different patients with different degrees of digitalization. However, the average ventricular rate after blocking of the vagus by atropine in the group as a whole was practically identical with that immediately after severe

physical exercise, namely 130 beats a minute after atropine and 128 a minute after the physical exercise.

In table 2 the results have been rearranged in order to compare the effect of atropine with that of exercise during different grades of digitalis action. The experiments are arranged in three groups: (A) before

TABLE 3.—Proof That Physical Exercise Produces the Same Maximum Ventricular Rate as Blocking the Vagi by Atropine

	Ventricular Rate During Rest	Maximum Ventricular Rate After	
		Atropine	Exercise
A. No digitalization	95	152	149
B. Predominantly "vagal" digitalization	77	136	133
C. Predominantly "extravagal" digitalization	60	105	105

digitalization, (B) during digitalization by the predominantly "vagal" mechanism and (C) during digitalization by the predominantly "extravagal" mechanism. Groups B and C are defined by the effect of atropine. When atropine caused marked acceleration, usually to a rate considerably above 100 beats a minute, the cases were placed in the "vagal" group. When, as after larger doses of digitalis, atropine caused less acceleration, usually to a rate not greatly exceeding 100 a minute, the cases were placed in the "extravagal" group.

When the results are examined in this way it may be noted that the maximum ventricular rate after the administration of atropine is highest when the patient is without digitalis, is somewhat lower after moderate digitalization and is considerably lower after more intense digitalization. Nevertheless, the average maximum ventricular rate after extreme exertion is practically identical with that after blocking of the vagus by atropine in all three stages. These facts are more readily seen in table 3, in which the averages of the results of table 2 are assembled.

In isolated instances the maximum rate reached by blocking the vagi is significantly different from that after exercise. In eleven out of twenty-four experiments listed in table 2 a difference of at least 20 beats

TABLE 4.—Case of W. S.: Proof That Resting Ventricular Rate May Fall to Reveal Different Degrees of Digitalization

Doses of Digitalis	Resting Ventricular Rate	Maximum Ventricular Rate After	
		Atropine	Exercise
None.....	115	175	180
Moderate.....	80	170	180
Large.....	90	100	110

a minute occurred. In 7 cases, or 29 per cent, the acceleration after exercise was from 20 to 30 beats less than would be the case if vagal tone were completely removed. In 4 cases, or 17 per cent, the maximum ventricular rate after exercise was from 20 to 35 beats higher than could be accounted for solely by the removal of vagal tone.

COMMENT

It is well known that patients with heart disease, and especially those with auricular fibrillation, frequently show an exaggerated response to exercise.⁵

4. The lanatoside C (cedilanid) was supplied by Sandoz Chemical Works, Inc., and the digitoxin (Digitaline Nativelle) by Laboratoire Nativelle.

5. Blumgart, H.: The Reaction to Exercise of the Heart Affected by Auricular Fibrillation, *Heart* 11:49 (Jan.) 1924. Lewis.³

But whether this response to exercise by these patients is mediated through decreased vagal tone or through some other factor such as stimulation of the accelerators is not established. The normal mechanism for cardiac acceleration by physical exercise in the dog was shown by Gasser and Meek⁶ to be due to decreased vagal tone, and they suggested that accelerator stimulation participates only in times of great need. Boas⁷ suggested that the accelerators play a role in the rapid and labile ventricular rate of patients with auricular fibrillation who have exophthalmic goiter or autonomic imbalance. Our experiments indicate that in the average patient with auricular fibrillation with or without digitalis the acceleration of the heart with severe physical exercise is due to decreased vagal tone, the normal mechanism seen in the dog.

This deduction is based on the observation that the maximum rate of the heart beat reached when the vagi are blocked by atropine in the patient with auricular fibrillation is the same as that attained during extreme grades of physical effort. When the degree of digitalization has been relatively light ("vagal" slowing), blocking the vagus with atropine as well as physical exertion produces marked acceleration of the ventricular rate to levels of the order of 150 a minute or more. When the doses of digitalis have been relatively larger ("extravagal" slowing), however, neither blocking the vagi by atropine nor physical exertion produces marked ventricular acceleration, usually not much above 100 a minute.

The type of cardiac slowing by digitalis in auricular fibrillation, whether by the "vagal" or by the "extravagal" mechanism, can therefore be ascertained either by blocking the vagus with atropine or by physical exertion. The two generally yield the same results. If a patient has been digitalized at complete rest in bed, and the ventricular rate has been reduced, for instance, to 70 a minute, the observation that 2 mg. of atropine sulfate injected intravenously fails to accelerate the rate appreciably above 100 beats a minute is, in the average case, a satisfactory indication that the exaggerated acceleration usually seen in patients with auricular fibrillation during physical effort will not occur.

While in the average patient with auricular fibrillation acceleration of the ventricular rate during exercise takes place by a decrease of vagal tone, the results of our studies showed some exceptions. In a few instances the level of the ventricular rate after physical exercise was lower than after complete blocking of the vagi. These probably indicate that the patient discontinued the effort before vagal tone was completely lost. In 4 cases, however, the ventricular rate rose to a level higher than could be accounted for by the complete blocking of the vagus. This indicates that under certain conditions the patient with auricular fibrillation may utilize some mechanism for acceleration of the ventricle during physical effort in addition to the decrease of the vagal tone. In one of these the resting rate was 66 a minute during full digitalization. Blocking the vagus accelerated the rate to 103 a minute, but during physical exertion the rate rose to 138 a minute. We do not know what this accessory mechanism is. There are several possibilities, such as direct stimulation of the accelerators or their indirect stimulation through the

effects of asphyxia on the secretion of epinephrine. It may be noted that the 4 patients in whom such an accelerator mechanism operated during effort had the most advanced degree of cardiac damage and failure of the entire group, especially patients D. C. and T. S. They were the only ones of the entire series who required intravenous injection of organic mercurials in addition to digitalis to control their failure sufficiently to enable them to be up and about.

At this point attention should be directed to the fact that the level of the resting ventricular rate in digitalized patients with auricular fibrillation does not reveal whether the slowing is produced by the "vagal" or by the "extravagal" mechanism. Attention was called to this matter in another study⁸ in which the explanation of the phenomenon was discussed. Table 4 shows a case in the present series which illustrates this point. The resting rates after moderate and after large doses of digitalis were practically identical, but after the moderate doses atropine as well as physical exertion produced very marked acceleration, whereas after large doses of digitalis the same factors produced very little acceleration.

SUMMARY AND CONCLUSIONS

1. The average patient with auricular fibrillation has acceleration of the ventricular rate during exercise chiefly, if not entirely, by decrease of the vagal tone. In these cases blocking the vagus by means of atropine accelerates the ventricles to the same maximum level as extreme physical exertion.

2. There is an indication that in some patients, especially those with advanced heart failure, an accessory mechanism for acceleration may also be invoked during extreme physical effort.

3. Exaggerated acceleration of the ventricles caused by physical exercise in patients with auricular fibrillation can be prevented in most cases by "extravagal" digitalization, a state in which the ventricles are slowed chiefly by the direct action of digitalis on auriculoventricular conduction and in which vagal tone has been, for the most part, lost. It is produced by relatively large doses of digitalis. In this state, the ventricular rate rarely exceeds 100 beats a minute after the vagi are blocked by atropine or after severe physical effort.

4. The rate of the ventricles during rest does not disclose whether the digitalis has caused the slowing by the "vagal" or by the "extravagal" mechanism. There are two methods for determining "extravagal" digitalization: (1) the atropine test (the intravenous injection of 2 mg. of atropine sulfate) and (2) physical exercise. After neither of these tests will the ventricular rate rise appreciably above 100 beats a minute if enough digitalis has been given to cause slowing by the extravagal mechanism.

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8. Gold, Harry; Kwit, N. T.; Otto, Harold, and Fox, Theodore: Physiological Adaptations in Cardiac Slowing by Digitalis and Their Bearing on Problems of Digitalization in Patients with Auricular Fibrillation, *J. Pharmacol. & Exper. Therap.* **67**: 224 (Oct.) 1939.

6. Gasser, H. S., and Meek, W. J.: A Study of the Mechanisms by Which Muscular Exercise Produces Acceleration of the Heart, *Am. J. Physiol.* **34**: 48, 1914.

7. Boas, E. P.: Digitalis Dosage in Auricular Fibrillation, *Am. Heart J.* **6**: 788 (Aug.) 1931; The Ventricular Rate in Auricular Fibrillation: Studies with the Cardiograph, *ibid.* **4**: 499 (June) 1929.

Fatigue.—The most striking effects of fatigue are on the nervous system, where it produces irritability, nervousness, restlessness. Enthusiasm is gone, judgment warped. The world looks drab. Child specialists tell us that many behavior problems in children are due to fatigue. There is evidence that fatigue lowers resistance to disease, and it very definitely interferes with recovery from infections.—Diehl, Harold S.: *Healthful Living*, New York, McGraw-Hill Book Company, Inc., 1941.

THE FORMATION OF RENAL CALCULI IN BEDRIDDEN PATIENTS

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My purpose in this paper is to call attention to, and illustrate by the report of cases, the effects of inadequate renal drainage and of phosphaturia in the formation of renal calculi in bedridden patients. In my experience it has been the phosphatic stones (calcium phosphate) which have produced the most serious results, because they can form rapidly and without symptoms, so that they may have already produced a serious condition when they are discovered.

The fact that renal calculi are frequently formed in patients having paralyses which produce disturbances of urination, such for example as fractures of the spine and poliomyelitis, has been so generally recognized and so frequently reported that it is unnecessary to devote any space here to confirming it. The discussions concerning preventive treatment have emphasized the correction of metabolic disturbances, the relief of urinary obstruction, the removal of foci of infection, regulation of the diet and the administration of vitamins and have neglected to stress adequately the importance of obtaining renal drainage by proper posture aided by a large urinary output, the two things which, I think, are perhaps of greatest importance in the prevention of the phosphatic stones.

Of course urinary obstruction, focal infection, hyperparathyroidism, infections of the urinary tract and vitamin deficiencies are important etiologic factors in the formation of renal calculi, and they may well be of considerable importance in some cases, but they are at times not the essential etiologic factors, since phosphaturia and poor drainage with the increased excretion of calcium, which seems to occur in patients with paralyses, may cause and are in themselves capable of producing phosphatic calculi.

Furthermore, there is no doubt but that the processes which are now considered to be the usual etiologic factors in the formation of stones frequently occur in these patients. The past history of some of them shows that the propensity to the formation of stones had already existed before the occurrence of the illnesses or accidents which caused them to be bedridden. In other instances the stone-forming process probably developed afterward. These kinds of stones or beginning stone formations may, of course, cause serious complications which I shall not discuss here.

PHOSPHATIC STONES

I have had 3 patients who had multiple phosphatic renal calculi after poliomyelitis; 1 had both kidneys full of stones and 2 had one kidney full and some stones in the other one. Two of these patients died, and the other one, after many operations, has attained fairly good health.

Last year I had a patient whose condition, when he came to me, was, I feel sure, the early stage of the condition that I found in the other patients—five or six of the minor calices of the left kidney were filled or almost filled with many small stones and sand, and many of the minor calices of the right kidney contained a little sand, so that a faint outline of the calices could be seen in a roentgenogram. There was one stone in the right kidney about 1 by 1 by 0.5 cm. The patient had been

bedridden for about three months because of a fractured femur which refused to unite satisfactorily, and he had been given two tablets a day of dicalcium phosphate for two months; he had phosphaturia when I saw him. A stereoscopic urogram showed that the major and minor calices of the kidneys, especially of the left kidney, ran almost directly dorsal from the pelvis and that the pelvis was probably of the anterior variety. Therefore, drainage free enough to rid the kidneys of the sand and the stone could not occur unless the patient would lie on, or almost on, the ventral surface of the body. He began at once to assume this position for several hours a day, having each time first drunk a large amount of water. He passed all the sand and small stones from the kidneys without much difficulty, except the large stone in the right kidney, which would not pass through the ureter and later on had to be removed at operation.

In reviewing a large number of stereoscopic urograms I have found that it is not unusual to find the calices of one, sometimes of both kidneys, running backward from the pelvis, so that the pelvis lies almost entirely ventral to the major calices, a condition which I had paid little attention to until I found it in this patient.



Fig. 1 (case 4).—Sand and small stones fill the minor calices on the left. One stone is seen in the right pelvis and there is also a little sand in a few of the minor calices of the right kidney which shows in the roentgenogram but not here.

The essential difference between the commonly encountered processes of stone formation and the formation of these phosphatic stones is that the phosphatic stones are usually the result of only three things: (1) a precipitation of the urinary phosphates either as amorphous phosphates or as phosphatic crystals or both; (2) a lack of an adequate drainage of the renal calices and pelvis due to improper posture and to an inadequate intake of fluid, and (3) increased calciuria. I cannot be sure that the increase in the calcium in the urine always occurs or that it is an essential factor.

Phosphaturia is by no means an uncommon occurrence in the bedridden patients I have seen, and it is due to a number of different causes: (1) metabolic disturbances resulting from the disease (trauma, infection, fever and toxemia); (2) disturbances of the gastrointestinal tract caused by being bedridden and by the drugs given to relieve pain and nervousness; (3) too much citrus fruit juice; (4) saline cathartics containing phosphates (particularly those containing sodium bicarbonate), and sodium phosphate used by itself as a purgative or acid sodium phosphate used for

acidifying the urine; (5) sodium bicarbonate and magnesium oxide which are so frequently given to these patients for "indigestion" and "acid stomach," and (6) inappropriate diet.

Of course, the formation of gravel or renal calculi in patients with extensive and more or less permanent paralyses is a more serious matter than it is in patients

fractures, of course, cannot be moved from the dorsal position for several weeks, but it is not likely that during that period extensive formation of stones will occur or serious complications develop if the aforementioned precautions are taken.

REPORT OF CASES

CASE 1.—A married man aged 30, who had had colic in the right kidney fifteen years before and passed some small renal calculi, was admitted to Piedmont Hospital Jan. 1, 1937. He had had poliomyelitis six months before with more or less complete paralysis of the lower limbs. He had been in a cast nine weeks and had urinated by means of a retention catheter for several weeks. He had had fever and malaise a good deal of the time since having the poliomyelitis. Recently he had been worse, and in the past week vomiting had occurred. Examination showed the urine to be alkaline and cloudy and to contain pus and gram-negative bacilli. The pelvis and calices of the right kidney were filled with not very dense stones. Roentgenograms showed a more evident shadow in the region of the pelvis of the left kidney. There was no infection of the left kidney, which was functioning well. There was infection of the right kidney; no function was shown by the phenol-sulphonphthalein test.

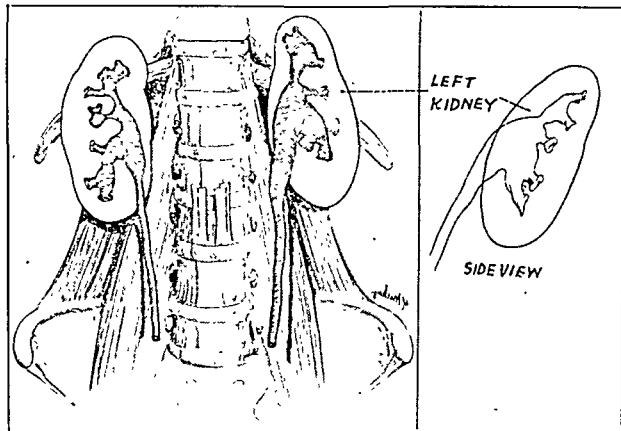


Fig. 2.—Ventral position of the pelvis of the left kidney. The ureter, next to the pelvis, can be seen to run a little farther ventrad. The major and minor calices point dorsal—a condition which does not permit good drainage of the minor calices unless the patient lies on the abdomen.

with fractures of bone who usually are kept in bed a comparatively short time and who, therefore, have so much better chance of passing small stones or gravel out of their kidneys and of being cured of their tendency to form stones.

The prevention of complications, which may result from renal calculi in patients with paralyses when the calculi have already formed or begun to form, can usually be accomplished by careful medical and urologic attention. The prevention of the serious condition which may result from extensive formation of phos-



Fig. 4 (case 3).—The pelvis and calices of the right kidney are filled with stones of varying size. A good many stones of various sizes are present in the minor calices of the left kidney.



Fig. 3 (case 2).—Many small stones and sand fill the pelvis and calices of the right kidney, and stones and sand are present in a good many of the minor calices of the left kidney. The stones in the lower part of the left ureter are not shown.

phatic stones can be accomplished by preventing phosphaturia. But for all these patients it seems to me that there is a clear indication for them to lie at least part of the time, perhaps an hour or two a day, on the ventral surface of the body and to drink a large quantity of water before they do so. Some of the patients with

On January 8 nephrectomy was done on the right side. The stones were found to be soft and largely phosphatic. On January 15 a perianal abscess was opened by Dr. Eubanks. On January 30 ureterolithotomy was performed for impacted stone. Phosphatic sand was found in the ureter above the stone. A nephrostomy tube was left in and the patient returned to his home in South Carolina.

On Oct. 1, 1939 the patient died. The remaining kidney had become completely filled with stones many months before death.

CASE 2.—A schoolgirl aged 16, admitted to the hospital Nov. 26, 1937, had had poliomyelitis in July 1937 with resultant paralysis of the lower limbs and some paralysis of the arms. Examination of the urine revealed severe phosphaturia and many gram-negative bacilli and gram-positive cocci. Roentgenograms showed the pelvis and calices of the left kidney to be completely filled with small stones and several small stones in the lower part of the left ureter. There were some small stones in five or six of the minor calices of the right kidney. Gram-negative bacilli and gram-positive cocci were obtained from the left kidney and only a few gram-positive cocci from the right kidney.

The patient was carried home to Lexington, Ky. Dr. Douglas Scott has performed a number of operations on her ureters and kidneys since then and on May 31, 1940 wrote me that she "is now living in a wheel chair and this week completed her high school work and graduated." She is not free of stones.

CASE 3.—A schoolboy aged 16, admitted to the hospital Feb. 21, 1938, had had poliomyelitis six months before with complete paralysis of the lower limbs. Examination showed the urine to be cloudy and alkaline and to contain much pus and many staphylococci. The pelvis and calices of the right kidney were filled with small stones. There were some larger stones in the left kidney.

On March 1 pyelolithotomy was done on the left side, and a nephrostomy tube was left in. Phosphatic stones and sand were removed from the pelvis and calices.

On April 1 pyelolithotomy was done on the right kidney, and a nephrostomy tube was left in.

On April 18 the patient died. Autopsy revealed a perforation of the jejunum and fibrinous peritonitis, the cause of which could not be determined. There were no stones in the kidney.

CASE 4.—A man aged 27, admitted to the hospital Feb. 25, 1940, had broken his right femur three months before admission. Healing was unsatisfactory and he had just been sent to Atlanta to an orthopedic surgeon. For two months he had taken two tablets of dicalcium phosphate daily and smaller doses during the remaining month. Blood had appeared in the urine the day before admission.

Examination of the urine revealed it to be alkaline and marked by phosphaturia and many red blood cells. Roentgenograms showed most of the minor calices of the left kidney outlined as though they were partially filled with stones and those of the right kidney faintly outlined as though they contained a little sediment of sand or gravel. There was one shadow about 0.7 cm. in diameter in the region of the right kidney.

On a suitable diet, taking plenty of water and lying on his abdomen two to three hours a day, the patient passed phosphatic sand and many small stones. All the stones were passed except the large one in the right kidney, which could not go through the ureter and was later removed at ureterolithotomy.

SUMMARY

Of 4 patients with multiple small phosphatic stones and sand in the kidneys, 3 had had poliomyelitis with rather extensive paralyses, and the fourth, a fractured femur which would not unite satisfactorily. The last patient had many small renal calculi, which were all passed by having him drink large quantities of water and lie three or four hours a day on his abdomen. One large stone would not pass through the ureter.

A stereoscopic urogram of patient 4 showed that the minor calices of the left kidney pointed dorsal from the major calices, which in turn pointed back from the pelvis; somewhat the same condition existed in the right side, and it was evident that the stones had accumulated in the kidneys because of this condition and because of his failure to lie on his abdomen. A study of stereoscopic urograms of a large number of patients shows that kidneys with anterior pelves and dorsal-pointing calices occur fairly frequently; I believe that the drainage of sand and small stones from kidneys of that character does not occur unless the patient lies on the ventral surface of his body.

Multiple phosphatic stones can probably form in the kidneys solely as the result of phosphaturia and a lack of proper drainage due to an improper position in bed; perhaps an increased calcariuria is necessary. I do not know.

Naturally all the other known etiologic factors of the formation of stones may exist in bedridden patients and no doubt often do exist, and every precaution to prevent this formation should always be taken, including drainage by changes in posture.

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THE IMMEDIATE AND LATE EFFECTS OF THE INTRATHECAL INJECTION OF IODIZED OIL

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CHICAGO

Although generally recognized as a valuable adjunct in the diagnosis of lesions of the spinal cord, myelography by means of iodized oil¹ has been criticized on three scores, namely that it is irritating to the spinal meninges, that it may not demonstrate early lesions and that occasionally it shows a block where no lesion can be found at operation. The first of these, the irritating effect, has been emphasized more than the other objections.² The majority of reports have stressed the immediate reactions, but a few have mentioned delayed deleterious effects from the injected iodized oil. The increased use of myelography with iodized oil as a diagnostic aid in the sciatic syndrome has made imperative a comprehensive examination of the immediate and late effects of the intrathecal injection of iodized oil.

In order to assess these reactions, we reviewed all the cases at the University of Chicago Clinics in which iodized oil had been used to examine the spinal canal. The histories of the patients were carefully studied with particular attention to any immediate reactions to the injected iodized oil. Letters were sent to the patients who were still living asking them to return for a check-up. At no time was the purpose of the examination mentioned to the patient—none, so far as we know, was aware of our particular interest. On their return a detailed interval history was obtained with particular emphasis on those points which might indicate deleterious effects of the previous injection of iodized oil, such as pain in the extremities, headache, paresthesias, paralyses and gastrointestinal or urinary disturbances. A complete neurologic examination was then made. All but 3 of the patients who returned were placed on the tilting table, and the spine was examined with the fluoroscope, spot films being made for a permanent record of the examination. In the later cases a lateral roentgenogram of the skull was taken.

IMMEDIATE EFFECTS

Between 1928 and 1939, 150 patients were examined with the aid of intrathecal injections of iodized oil. Usually 2 cc. of iodized oil was used, but in a few cases when the fluoroscopic appearance was not sufficiently clear for a definite diagnosis another 2 cc. was introduced into the subarachnoid space. The injection was made into the spinal canal by lumbar puncture in the majority of the cases, but in 14 instances the oil was injected into the cisterna magna. The site of injection did not appear to make an appreciable difference in the resulting symptoms or sequelae.

Clinical Manifestations.—Of the entire group, 46.4 per cent had no subjective reaction of any type and

From the Division of Roentgenology and the Division of Neurosurgery, the University of Chicago.

1. The iodized oil used in this study was 40 per cent iodine in poppy-seed oil, except for a few cases in which the iodine concentration was only 20 per cent.

2. Spurling, R. G., and Grantham, E. G.: Neurologic Picture of Herniations of the Nucleus Pulposus in the Lower Part of the Lumbar Region, *Arch. Surg.* 40: 375-388 (March) 1940. Oldberg, Eric: A Plea for Respect for the Tissues of the Central Nervous System, *Surg., Gynec. & Obst.* 70: 724-725 (March) 1940.

the temperatures did not exceed 99 F. during the three days after the injection. Fever was the most common sequel; 29.6 per cent of the patients had a temperature of 99 to 100 F. and 24 per cent over 100 F. The highest temperature noted was 103 F. The fever lasted only twenty-four to forty-eight hours, and in none of the cases did it persist as long as seventy-two hours. Sex did not seem to play a role in the severity of the reaction. Those patients having a tumor of the spinal cord or a complete block to the iodized oil were less likely to have a febrile reaction to the oil than those who did not have a tumor or a block (table 1).

Other symptoms or signs noted immediately after injection of the iodized oil were headache (23 cases), aggravation of previous symptoms (9 cases), nausea (2 cases), vomiting (2 cases) and stiff neck (1 case).

All these symptoms and signs usually subsided within seventy-two hours after the injection of the iodized oil into the spinal canal.

Many authors have noted some or all of the aforementioned immediate ill effects of intrathecal injections of iodized oil. Fever and headache have been considered the most common complications.³ The other manifestations just noted have been present less fre-

quently. Dizziness was given by Schönbauer⁴ as a rather frequent complaint. Peiper,⁵ Albrecht⁶ and Wartenberg⁷ have reported paralyzes of the cranial nerves, especially of those controlling the eye muscles. Rodriguez de Mata⁸ reported a case of temporary amaurosis after the use of ascendant iodized oil.

The exaggeration of symptoms and signs previously present has been reported by many writers and is not an uncommon occurrence. Root pains, paresthesias and aches are frequent.⁹ An increase in a partial paralysis has been seen occasionally.¹⁰ The severe dyspnea reported by Wartenberg⁷ and Fumarola and Enderle¹¹ should probably be considered an exacerbation of a preexisting condition. Bladder symptoms¹⁰ (retention or incontinence) and constipation are usually of the same category. Messing¹² reported a case of paralytic ileus following an examination with iodized oil. In most instances these exacerbations have been temporary, lasting only a day or two. However, because lumbar puncture alone is not uncommonly followed by an exaggeration of symptoms in cases of tumor of the spinal cord, the foregoing observations are difficult to assess.

Changes in Spinal Fluid.—The changes in the spinal fluid after the injection of iodized oil have been discussed by many authors, but few systematic studies have been made. Immediately after the injection (up to six to eight hours), the spinal fluid remains normal,¹³ but at about twenty-four hours it shows pleocytosis, with as many as 100 cells per cubic millimeter, although occasionally the reaction is more severe and the cells may reach 800 or 1,000 per cubic millimeter.¹⁴ When the total count is below 100 cells per cubic millimeter the aggregation of cells is usually made up equally of polymorphonuclear leukocytes and lymphocytes; when the total count exceeds that number, the polymorphonuclear leukocytes tend to predominate. The height of the reaction is apparently the second, third or fourth day after injection, after which the cell count falls (fig. 1). A slight pleocytosis may persist for some time, rarely as long as six months or a year.¹⁵

The total protein of the spinal fluid also tends to increase after the injection, although it does not reach high concentrations. Ebaugh and Mella¹⁶ stated that in twenty-four hours the protein reaches a peak at about 130 mg. per hundred cubic centimeters and maintains this level for several days. The figures given by Walsh and Love¹⁵ did not show such high levels, although some of their patients had increased protein in the spinal fluid as long as seventeen days after the injection of iodized oil.

Besides the changes in cells and protein, Ebaugh and Mella¹⁶ stressed the fact that many bloody taps occur after the injection of iodized oil, an observation which seems to be borne out by the report of Walsh and Love,¹⁵ in whose series of 24 patients 13 had bloody spinal fluid. Ebaugh and Mella's interpretation of this as indicating a generalized congestion of the spinal vessels seems to be justified, for we have seen hyperemic roots of the cauda equina at operation following myelography with iodized oil but have never observed the spinal fluid to be grossly bloody.

No mention is made in the literature of the pressure of the spinal fluid after the intrathecal injection of iodized oil. In our series the pressure has never been increased, even when several hundred cells were present.

Fatal Reactions.—In none of our cases has a fatal outcome been referable to the injection of iodized oil.

TABLE 1.—Immediate Reactions of Temperature Following Intrathecal Injection of Iodized Oil

	Temperature			Total Percentage
	Under 99 F.	99-100 F.	Over 100 F.	
Total cases (percentage)	46.4	29.6	24.0	100
Male (percentage).....	46.8	28.5	24.7	100
Female (percentage).....	46.0	30.0	24.0	100
Tumor (percentage).....	55.0	30.0	15.0	100
No tumor (percentage).....	38.8	30.6	30.6	100
Canal block (percentage)	55.0	28.3	16.7	100
No canal block (percentage)	40.0	29.2	30.8	100

quently. Dizziness was given by Schönbauer⁴ as a rather frequent complaint. Peiper,⁵ Albrecht⁶ and Wartenberg⁷ have reported paralyzes of the cranial nerves, especially of those controlling the eye muscles. Rodriguez de Mata⁸ reported a case of temporary amaurosis after the use of ascendant iodized oil.

The exaggeration of symptoms and signs previously present has been reported by many writers and is not an uncommon occurrence. Root pains, paresthesias and aches are frequent.⁹ An increase in a partial paralysis has been seen occasionally.¹⁰ The severe dyspnea

3. Lüdén, Max: Ueber Myelographie, Schweiz. med. Wchnschr. **11**: 29-32, 1930. Nonne, M.: Kritische Bemerkungen zur Jodipin-Diagnostik bei Rückenmarkserkrankungen, Deutsche Ztschr. f. Nervenhe. **102**: 6-13, 1928. Albrecht,⁶ Fumarola and Enderle,¹¹ Peiper,⁵ Schönbauer,⁴ Selig and Rubert,²² Sicard and Forestier,¹⁴ Wartenberg.⁷

4. Schönbauer, L.: Die Ergebnisse der operativen Behandlung der Rückenmarkserkrankungen, Zentrabl. f. d. ges. Neurol. u. Psychiat. **154**: 645-692, 1929.

5. Peiper, H.: Die Ergebnisse der Myelographie im Dienste der Diagnostik von Rückenmarkserkrankungen, Ergebn. d. med. Strahlenforsch. **2**: 107-195, 1926.

6. Albrecht, K.: Die röntgenologische Darstellung von Rückenmarkstumoren durch Jodipin, Zentrabl. f. d. ges. Neurol. u. Psychiat. **41**: 921-925, 1925.

7. Wartenberg, R.: Beitrag zur Encephalographie und Myelographie, Arch. f. Psychiat. **77**: 507-531, 1926.

8. Rodriguez de Mata, T.: Un caso de amaurosis total y transitoria consecutiva a una inyección intrarraquidea de lipiodol, Actas Soc. de cir. de Madrid **2**: 165-168 (April-June) 1933.

9. Nonne, M.: Kritische Bemerkungen zur Jodipin-Diagnostik bei Rückenmarkserkrankungen, Zentrabl. f. d. ges. Neurol. **47**: 810-813, 1927. Armour, D.: Surgery of the Spinal Cord and Its Membranes, Lancet **1**: 423-430 (Feb. 26) 1927. Sharpe, W., and Peterson, C. A.: Danger in the Use of Lipiodol in the Diagnosis of Obstructive Lesions of the Spinal Cord, Ann. Surg. **83**: 32-40 (Jan.) 1926. Fumarola and Enderle,¹¹ Lüdén,³ Schönbauer,⁴ de Thurzó,¹³ Oljenick,²³ Globus.²¹

10. Ruin, Edward: Irritant Effect of Iodized Oils Injected into Subarachnoid Space in Course of Myelography, Finska läk.-sällsk. handl. **76**: 15-21 (Jan.) 1934. Fumarola and Enderle.¹¹

11. Fumarola, G., and Enderle, C.: Pericoli, inconvenienti e danni della mielografia con gli olii jodati, Radiol. med. **19**: 1271-1284 (Nov.) 1932.

12. Messing, cited by Fumarola and Enderle.¹¹

13. de Thurzó, Eugen: Myelography with Lipiodol, Folia neuropath. estoniana **11**: 157-219, 1931. Odin, M., and Runström, G.: Iodized Oils as an Aid to the Diagnosis of Lesions of the Spinal Cord and a Contribution to the Knowledge of Adhesive Circumscribed Meningitis, Acta radiol. (suppl.) **7**: 3-85, 1928. Ebaugh and Mella.¹⁶ Walsh and Love.¹⁵

14. Sicard, J. A., and Forestier, J.: The Use of Lipiodol in Diagnosis and Treatment, London, Oxford University Press, 1932.

15. Walsh, M. N., and Love, J. G.: Meningeal Response Following Subarachnoid Injection of Iodized Oil, Proc. Staff Meet., Mayo Clin. **13**: 792-796 (Dec. 14) 1938.

16. Ebaugh, F. G., and Mella, H.: Use of Lipiodol in Localization of Spinal Lesions, Am. J. M. Sc. **172**: 117-123 (July) 1926.

Fatal reactions to iodized oil are rare, but a few deaths have been reported which must be considered. Two of the reports¹⁷ are of cases in which no postmortem examination was made, so that they merit little comment. Five cases in which autopsy was done, however, have been reported in some detail. The role of the iodized oil in these cases is not easily determined, for each patient had serious and extensive disease of the spinal cord. In 1 of Albrecht's cases⁶ after a bloody cisternal puncture iodipin¹⁸ was injected into the cisterna magna. At autopsy blood was found in the posterior fossa and over the cerebral hemispheres. Albrecht's conclusion that this bleeding was the result of a drunken brawl before admission to the hospital is certainly open to question. That the cisternal puncture alone was responsible for the bleeding and fatal outcome is not impossible. Albrecht's⁶ second case was no more conclusive. The patient had suffered from tetraplegia for three years and breathed mainly with her accessory respiratory muscles. Twenty-four hours after myelography by means of iodized oil she died of respiratory paralysis; but a few hours before her demise she had been given 0.03 Gm. of pantopon (hydrochlorides of the alkaloids of opium, principally morphine). The postmortem examination showed punctate hemorrhages in the spinal cord, but since the cause of the tetraplegia was not stated the significance of this condition is unknown. The etiologic relationship of the iodized oil to the fatal outcome in the presence of such complicating factors is not at all certain.

In the 3 other reports¹⁹ of patients who died—all with cervical lesions of the spinal cord—there appears to be a more direct connection between the injection of iodized oil and the patients' deaths. All showed acute spinal meningeal reactions and 2 of them similar acute inflammatory changes about the brain stem. In their case, Alajouanine and Horner²⁰ have suggested the ingenious hypothesis that the reaction is due to a disturbance of the cervical vasomotor mechanisms caused by acute compression of the cervical spinal cord resulting solely from the removal of spinal fluid. We are inclined to believe that the iodized oil played a more direct role in the fatality. That such fatal reactions are rare is evident from the fact that only these few cases can be gleaned from the world literature of the past fifteen years, during which time iodized oil has probably been used in thousands of cases.

LATE EFFECTS

Of the 150 patients in whom iodized oil was injected intrathecally, 47 returned and 9 out of town patients wrote us of their condition. The interval between the first and check-up examinations varied from one month to eleven years and one month. The average interval was three years and eight months.

Clinical Effects.—Although about half of the 47 patients who returned for a check-up examination had immediate ill effects from the injection of iodized oil, none, with the possible exception of 1 patient, had any

symptoms at the time of the reexamination which might be referred to the injected oil. Thirty-four of the patients were definitely improved or completely recovered both subjectively and objectively. Thirteen of them showed no significant change in their condition. The latter group was composed largely of patients suffering from inflammatory or degenerative disease of the spinal cord in which improvement could not be expected.

One patient, a woman aged 32, might be considered to have suffered deleterious effects from the iodized oil. She originally entered with the complaint of unilateral sciatic pain. After its demonstration by the use of iodized oil, a herniated intervertebral disk was removed surgically. For about six months her symptoms were relieved, only to recur at the end of that time. A second operation for the identical unilateral symptoms which she had suffered before the first operation showed that the subarachnoid space was obliterated below the second lumbar vertebra and the roots of the cauda equina were matted together. No further protrusion of a disk could be found.

Section of the posterior roots of the lower lumbar nerves on the involved side gave slight relief. It is impossible to be certain that the chronic hyperplastic arachnoiditis was the result of the iodized oil, for the greater part of the oil was found to be extradural at operation. That the arachnoiditis was responsible for the patient's pain is likewise uncertain, for the latter was strictly unilateral, while the arachnoiditis involved equally the roots of the cauda equina on the two sides. To make the case still more difficult to assess, certain psychogenic factors were present which might in themselves have been responsible in a large measure for the return of the patient's symptoms.

Of the patients who wrote to us, 7 stated that they were considerably improved or recovered and only 2 were unimproved. Nothing in the letters suggested that they had experienced any ill effects from the intrathecal injection of the oil.

It must be concluded from this clinical study that no definite, deleterious, permanent clinical ill effects can be ascribed to the introduction of 2 to 4 cc. of iodized oil into the subarachnoid space. It is possible that in the exceptional case, such as mentioned here, the iodized oil may be associated with arachnoiditis, but it is impossible to attribute this complication entirely to the oil, for bleeding at or after the operation might well have been responsible for the disorder. This conclusion

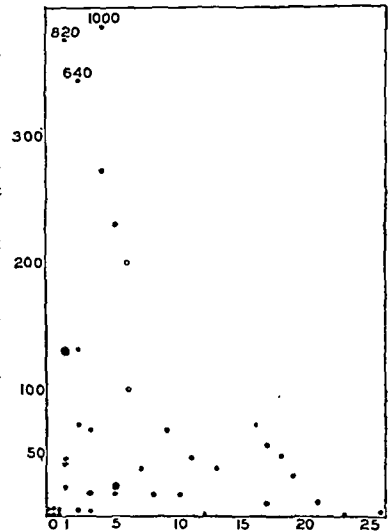


Fig. 1.—Pleocytosis of the spinal fluid following intrathecal injection of iodized oil. The ordinates represent the number of the cells per cubic millimeter of spinal fluid and the abscissa the days after injection. This chart is compiled from data gathered from the literature and our own cases. The two large dots represent the average of 13 cases as given by Ebaugh and Mella. We doubt that this chart gives a true picture of the average cellular reaction to intrathecal injections of iodized oil, for lumbar punctures are not performed in the usual case after the injection of iodized oil. The figures here probably represent the most severe reactions to the iodized oil.

17. Denk, W.: Ueber die Sicard'sche Myelographie und ihre Ergebnisse, *Arch. f. Klin. Chir.* 140: 208-233, 1926. Bellucci, Bruno: Visualizzazione radiologica del canale dell'ependima in un caso di idromielia, *Radiol. med.* 21: 1418-1426 (Dec.) 1934.

18. Iodipin is a combination of iodine (10, 20 or 40 per cent) with sesame oil.

19. Siebner, M.: Pachymeningitis cervicalis hypertrophica und akute Schädigung durch Myelographie, *Chirurg* 7: 177-180 (March 15) 1935. Schönbauer, Alajouanine and Horner.²⁰

20. Alajouanine, Théophile, and Horner, T.: Oedème cérébro-méningé avec hyperthermie mortelle dans un cas de tumeur médullaire cervicale, à l'occasion d'une banale injection de lipiodol sous-arachnoïdien, *Rev. neurol.* 67: 606-614 (May) 1937.

is in harmony with Globus's²¹ study of a somewhat similar series of cases. Selig and Rubert²² stated that even 5 to 6 cc. of iodized oil may be injected into the subarachnoid space without permanent ill effects.

Roentgenologic Effects in the Spinal Cord.—The roentgenographic observations can best be considered by a separate analysis of those patients who did not have laminectomies and of those who had operations on the spinal cord (tables 2 and 3).

In the group in which no operations were performed, with only a few exceptions (table 2), the greater part of the iodized oil was found to be freely movable in the subarachnoid space. In almost every case a few globules of it were fixed in the root sheaths of one or more of the nerves of the lower part of the spine, most frequently the sacral and coccygeal nerves (fig. 2). The

In contrast with the group of cases in which no operations were performed, the iodized oil within the spinal canal in the 24 cases in which an operation was done was usually fixed within the tissues and immobile (table 3). In 5 cases a few droplets flowed in the subarachnoid space, although the greater mass of the oil in these was fixed within the tissues. In only 8 instances did the major part of the oil move freely, and in all but 2 of these instances the dura mater had not been opened at operation. This point, we believe, is a major factor in deciding whether iodized oil will be fixed or not. If the dura mater is widely opened, air and blood may enter the subarachnoid space and meningeal reactions may result in extensive arachnoiditis. This may occur even if iodized oil is not present.

TABLE 2.—Summary of Cases of Intrathecal Injections of Iodized Oil Without Laminectomy

Name	Age	Diagnosis	Iodized Oil, 1st Examination	Interval Between Examinations, Months	Iodized Oil, 2d Examination	Clinical Result
R. M.....	34	Sciatic syndrome	Normal *	48	Fixed except large drop	Unchanged
T. B.....	29	No diagnosis	Normal	53	Normal	Improved
F. S.....	28	Sciatic syndrome	Normal	24	Normal	Unchanged
J. Ka.....	44	Sciatic syndrome	Normal	34	Normal	Improved
E. M.....	42	Posterolateral sclerosis	Normal	23	Normal	Unchanged
G. G.....	37	Arthritis	Normal	38	Normal	Improved
J. Ki.....	54	Sciatic syndrome	Normal	44	Normal	Unchanged
E. Gr.....	45	Radiculitis	Normal	29	Normal	Improved
E. B.....	41	Multiple sclerosis	Normal	122	Normal	Unchanged
N. G.....	35	Multiple sclerosis	Normal	35	Normal	Improved
H. Mc.....	46	Arthritis	Normal	20	Normal	Recovered
E. Ga.....	49	Arthritis	Normal	35	Normal	Improved
L. S.....	24	Myelodysplasia	Normal	26	Normal	Improved
R. Be.....	44	Fracture lumbar 1	Normal	63	Fixed	Improved
L. M.....	17	Myelodysplasia	Normal	22	Normal	Unchanged
E. D.....	62	Multiple sclerosis	Normal	107	Fixed except one drop	Unchanged
H. F.....	59	Sciatic syndrome	Normal	5	Normal	Unchanged
M. S.....	34	Sciatic syndrome	Normal	16	Fixed	Recovered
C. K.....	29	Sciatic syndrome	Normal	22	Normal	Recovered
E. K.....	26	Syringomyelia	Normal	30	Normal	Improved

* The term "normal" is used in tables 2 and 3 to denote that most of the iodized oil moved freely in the spinal canal and that no gross lesion of the canal was present. At the second examination a few drops of iodized oil were always found fixed in the sheaths of the nerve roots, as shown in figure 2.

longer the interval between the injection and the reexamination, the greater was the amount of iodized oil fixed along the nerve roots. When iodized oil had been present only three to four years, sufficient oil remained free in the subarachnoid space to form a pointed globule in the caudal sac when the patient was erect. Those patients examined after a longer interval showed only one or more small globules of iodized oil which were freely movable and proportionately more iodized oil fixed about the roots of the spinal nerves and in the caudal sac. In general, it seemed that the total amount of iodized oil in the spinal canal had decreased at the check-up examination as compared with that present at the initial examination. Since different machines with various target-film distances were used, no quantitative measurements could be made. In no case, however, had the oil been completely absorbed.

After operation, if the dura mater has been opened the iodized oil is rapidly encysted by the proliferation of the arachnoid membrane. Within one month of operation we have found the oil completely fixed in the tissues.

In those cases in which the dura mater has been opened, anteroposterior roentgenograms of the spine may give a false impression regarding the site of the fixed iodized oil. Frequently much of the oil is present in the tissues outside the spinal canal and only a small amount enmeshed in the arachnoid membrane. That within the subarachnoid space is usually found in the roots of the spinal nerves and as a globule at the end of the caudal sac.

The presence of iodized oil along the roots of the spinal nerves has been commented on by practically every author who has discussed the subject of myelography with iodized oil (fig. 3). When the oil is injected epidurally, the phenomenon is much more pronounced than when the injection is made in the subarachnoid space. Iodized oil has been found in the popliteal space within a few months after

21. Globus, J. H.: Contribution Made by Roentgenographic Evidence After Injection of Iodized Oil, *Arch. Neurol. & Psychiat.* 37: 1077-1082 (May) 1937.
22. Selig, Seth, and Rubert, S. R.: The Effect of Large Amounts of Lipiodol Injected into the Spinal Subarachnoid Space, *J. Mt. Sinai Hosp.* 5: 363-368 (Nov.-Dec.) 1938.

the former injection,²³ while it rarely extends far into the pelvis when injected intrathecally.

Effect on the Brain.—Since no patient in the present series had any complaint referable to the brain, particular attention was not directed to the examination of the skull in the early part of this study. The report of Garland and Morrissey²⁴ called our attention to the possibility of the presence of encysted iodized oil within the intracranial cavity. To determine the incidence of this occurrence, we have taken lateral roentgenograms of the skulls of the last 21 patients seen. In 7 of these patients small globules of iodized oil were seen within the intracranial cavity. In 1 case one small drop and in another two small globules were

the skull was taken, but the iodized oil was no longer present intracranially. It is thus apparent that temporary introduction of iodized oil into the basal cisterns does not necessarily predicate its persistence there when the patient has resumed the normal upright posture.

It should be emphasized that the patients who had encysted intracranial iodized oil had no symptoms referable to its presence; in fact, 5 of the 7 patients were practically asymptomatic at the time of the examination.

Pathologic Effect.—We have had the privilege of examining the spinal cords of 4 patients who had iodized oil injected intrathecally some time before death. One

TABLE 3.—Summary of Cases of Intrathecal Injections of Iodized Oil and Laminectomy

Name	Age	Diagnosis	Iodized Oil, 1st Examination	Dura Opened	Interval Between Examinations, Months	Iodized Oil, 2d Examination	Clinical Result
J. L.....	23	Myelitis	Normal	Yes	125	Fixed	Unchanged
M. D.....	27	Intramedullary cord tumor	Block T 12	Yes	37	Fixed except one drop	Unchanged
L. W.....	30	Arachnoiditis	Defect T 10	Yes	115	Fixed	Unchanged
R. B.....	8	Teratoma	Block T 12	Yes	68	Fixed	Recovered
S. B.....	72	Extradural tumor	Block T 10	Yes	118	Fixed	Temporary recovery
H. B.....	18	Intraspinal cervical lipoma	Block C 4	Yes	42	Normal	Improved
O. T.....	36	Myelitis	Block T 12	Yes	51	Fixed	Unchanged
A. W.....	40	Neurofibroma	Block L 4	Yes	6	Fixed	Recovered
A. O.....	60	Meningioma	Block T 2	Yes	72	Fixed except one drop	Recovered
B. H.....	..	Neurofibroma	Block L 2	Yes	4	Partly fixed	Recovered
M. C.....	43	Prolapsed disk	Block L 4	Yes	23	Fixed	Recovered
J. C.....	30	Prolapsed disk	Block L 4	Yes	1	Fixed	Recovered
J. Z.....	29	Prolapsed disk	Block L 4	Yes	7	Fixed	Unchanged *
F. J.....	54	Prolapsed disk	Block L 4	Yes	5	Fixed	Improved
C. C.....	56	Prolapsed disk	Defect L 3	Yes	6	Normal	Recovered
C. P.....	40	Prolapsed disk	Defect L 5	Root sheath incised	3	Defect L 5	Improved
E. B.....	24	Prolapsed disk	Defect L 4	No	11	Defect L 4	Recovered
I. O.....	16	Prolapsed disk	Defect L 4	No	2	Normal	Recovered
D. C.....	56	Prolapsed disk	Defect L 4	No	2	Normal	Recovered
A. B.....	44	Prolapsed disk	Block L 4	No	5	Normal	Recovered
W. C.....	28	Prolapsed disk	Defect L 4	No	10	Normal	Recovered
L. D.....	39	Myelitis	Block T 1	No	52	Fixed except large drop	Improved
E. S.....	47	Extradural cyst	Defect L1-L2	No	54	Fixed	Improved
J. H.....	20	Extradural cyst	Block T 8	No	37	Fixed except few drops	Recovered

* Case referred to in text.

present in the posterior fossa. In the other 5 cases numerous small globules of iodized oil were scattered in the posterior fossa about the brain stem and the sella turcica (fig. 4).

It is noteworthy that in all 12 cases in which the iodized oil was fixed in the tissues in or about the spinal canal no oil was found within the intracranial cavity. The reverse, however, does not hold, for in 2 of the 9 instances in which the iodized oil flowed freely, none was seen in roentgenograms of the skull, and in 2 other cases only one or two small drops were present within the intracranial cavity. In each case in which the iodized oil was freely movable it was made to enter the basal cisterns by tilting the patient under fluoroscopic control. Immediately after having the patient assume the upright position another lateral roentgenogram of

of these instances is of limited value to us in this study because of the widespread disease (von Recklinghausen's neurofibromatosis) from which the patient suffered. The other 3 cases are presented in some detail, since reports of such cases are rare.

REPORT OF CASES

CASE 1.—History.—M. G., an Italian man aged 33, was admitted to the University of Chicago Clinics March 23, 1931 with a history of constant, severe, throbbing, frontal headaches every day and night for the previous two years; vomiting, not accompanied by nausea, almost every day for the previous sixteen months and weakness and dizziness on walking. On examination he was found to have a coarse nystagmus on looking to the left and a finer, quicker nystagmus on looking to the right, a slight right facial weakness and a positive Babinski response on the right side. All other physical and neurologic manifestations were normal. Two lumbar punctures were attempted, and on both occasions the fluid was blood tinged and under low tension. On jugular compression only a slight rise in pressure occurred. A cisternal puncture was made.

23. Pecker, R.: Image radiologique du tronc du sciatique après injection épidurale de lipiodol. Arch. d'électric. méd. 40:91-93 (Feb.) 1932.
24. Garland, L. H., and Morrissey, E. J.: Intracranial Collections of Iodized Oil Following Lumbar Myelography, Surg., Gynec. & Obst. 70: 196-210 (Feb.) 1940.

The pressure was 30 to 40 mm. of spinal fluid, and the fluid contained 130 lymphocytes per cubic millimeter.

An inflammatory process being suspected, encephalography was attempted on March 31, 1931, but when slightly bloody fluid was found under low pressure which did not rise on jugular compression 1 cc. of iodized oil was injected and the encephalography abandoned. The fluid removed contained 650 red blood corpuscles and 44 lymphocytes. Examination of the patient on the tilting table under the fluoroscope revealed an irregular block at the fourth thoracic vertebra.

Four days later ventriculography was performed which showed a deviation of the falx to the left side and an absence of air in the right ventricle. The patient contracted bronchopneumonia and died April 7, 1931, seven days after the intrathecal injection of iodized oil.

A postmortem examination showed a psammomatous meningioma over the right occipital lobe, early lobar pneumonia and acute tracheobronchitis and slight adhesive spinal arachnoiditis.

Examination of the Spinal Cord.—Gross Description: The leptomeninges of the spinal cord were slightly yellow tinged. In the midthoracic region a few adhesions were present between the dura mater and the arachnoid membrane. The vessels on the surface of the spinal cord were injected. Unfortunately no mention was made of the condition of the coverings of the cauda equina or of the presence of iodized oil. The original description of the microscopic changes mentioned congestion of the pial vessels and thickening of the arachnoid membrane. Fortunately three blocks embedded in paraffin from the spinal cord had been stored. The blocks were from the lower cervical, midthoracic and midlumbar segments. New sections were made and stained with hematoxylin and eosin and impregnated by Perdrau's method for reticulin.

Microscopic Description: Examination of these sections confirmed the diagnosis of arachnoiditis. In all three regions the arachnoid membrane was thickened in small areas about the cord. In the subarachnoid space were a considerable number of lymphocytes, frequently arranged about the small blood vessels. The latter were distended with blood. An occasional small calcospherite was seen in the arachnoid membrane.

The neurons of the spinal cord appeared normal in all segments. The white matter also seemed normal, and there was no evidence of gliosis.

The diagnosis was, therefore, mild chronic arachnoiditis and meningitis.

CASE 2.—History.—A. H., a white man aged 36, entered the University of Chicago Clinics July 12, 1929 with the complaint of pain in the left upper quadrant of the abdomen and in the lower thoracic region posteriorly for five months. Roentgen examination elsewhere had been reported as showing a gastric ulcer, but the patient had not improved on ulcer management. General physical examination showed hyperesthesia over the eighth to the twelfth thoracic dermatomes on both sides and increased tendon reflexes in the lower extremities. On July 15 a lumbar puncture was performed. The initial pressure was 20 mm. of spinal fluid and on bilateral jugular compression the pressure rose slowly to 200 mm. The fluid contained 4 cells (type not given) and had a total protein content of 47.6 mg. per hundred cubic centimeters. A tumor of the spinal cord being suspected, 1 cc. of iodized oil was injected and the patient examined on the tilting table under the fluoroscope. No significant abnormality was noted.

Repeated examinations of the gastric contents showed an absence of free hydrochloric acid (except in one sample, in which 5 units was found) and a persistent benzidine reaction strongly positive for blood. Roentgenologic examination of the stomach after a barium meal revealed a gross filling defect and outpocketing of barium in the pyloric region which was interpreted as indicating a neoplasm of the pylorus. On July 24, 1929 an exploratory laparotomy disclosed an inoperable carcinoma of the stomach. The patient grew steadily worse and died August 26, six weeks after the injection of iodized oil.

A postmortem examination revealed a primary carcinoma of the body of the pancreas invading the stomach, duodenum and colon; metastases to the liver, diaphragm, urinary bladder and pelvic lymph nodes; bilateral hypostatic pneumonia, and slight spinal adhesive arachnoiditis.

Examination of the Spinal Cord.—Gross Description: At autopsy no metastases were found in the epidural space or about the spinal cord. Delicate, fine, fibrous adhesions were noted in the middorsal region binding the dura mater to the leptomeninges and occasional similar adhesions at other points along the cord. No other changes were seen.

The spinal cord, almost in its entirety, had been preserved in solution of formaldehyde, so that it was available for inspection at the time this report was prepared. The arachnoid membrane appeared clear and almost transparent. At the level of the fifth thoracic segment several adhesive bands were present between the arachnoid membrane and the dura mater, but these could be easily broken. No other adhesions were noted. The spinal cord and the roots of the cauda equina looked grossly normal. The dura mater also was normal in appearance. A roentgenogram of the preserved specimen showed no trace of iodized oil; probably the caudal sac, which was missing, had contained the greater part of it. Sections were made of the spinal cord through the cauda equina, the lower thoracic portion and the midthoracic portion. These were stained for myelin (Smith-Quigley) cells (Nissl) and reticulin (Perdrau).

Microscopic Examination: Sections stained for myelin showed no definite demyelination in any segment of the spinal cord. The roots of the cauda equina appeared well myelinated. The neurons of the anterior and posterior horns stained well and appeared normal, although a few were dark staining and angular. There was no evidence of gliosis in the gray or in the white matter. The arachnoid membrane was slightly, if at all, thickened. There was no proliferation of the arachnoid membrane about the roots of the cauda equina. Perdrau sections, showing more clearly the distribution of reticulin, confirmed this impression. In none of the sections could globules of iodized oil be identified.

The diagnosis was, therefore, slight chronic arachnoiditis.

CASE 3.—History.—S. B., a white man aged 63, was admitted to the University of Chicago Clinics Oct. 8, 1929 complaining of numbness and paralysis of the legs and a feeling of constriction and intense pain in the lumbosacral region radiating around the lower part of the abdomen. These symptoms had appeared about a month previously and had gradually increased in severity. Physical examination revealed no abnormalities other than those referable to the central nervous system. Both legs were paralyzed and spastic, with increased tendon reflexes and Babinski responses on both sides. From the ninth to the twelfth thoracic segments hypalgesia was present, below which was complete analgesia with slight sacral spacing.

A lumbar puncture was performed October 9. The initial pressure was 110 mm. of spinal fluid and there was no rise on jugular compression. The fluid was slightly yellow and contained 201.0 mg. of protein per hundred cubic centimeters. At this time 1.5 cc. of iodized oil was injected. Fluoroscopic examination of the spinal canal showed a complete block at the eleventh thoracic vertebra.

October 12 a laminectomy of the seventh to the twelfth thoracic vertebra was performed and an epidural mass partially removed. The dura mater was opened for a decompression. The tumor was diagnosed as a small round cell sarcoma. Following roentgen therapy the patient slowly recovered. Although clinical signs of damage to the spinal cord persisted, the patient had no weakness of the legs and walked well.

He felt well until Oct. 18, 1937, at which time he returned because of dysphagia, persistent hoarseness and a productive cough. Fluoroscopic examination during a barium meal revealed constriction of the esophagus at the level of the second to the fourth thoracic vertebra. A biopsy specimen from this area was reported to be normal esophageal epithelium. Biopsy of a lymph node from the right supraclavicular region disclosed the tissue to be "probably of an inflammatory nature." Roentgen therapy relieved the patient's symptoms.

On Aug. 26, 1939 he returned with the complaints of dry cough, loss of weight and dyspnea on exertion. Examination showed enlarged axillary and inguinal lymph nodes, areas of dulness in both pulmonic fields and a hard mass in the left side of the scrotum. Both legs were spastic and the tendon reflexes hyperactive. Extensor plantar responses were present

on both sides. Position and vibratory sensibility were fairly good in the legs. Fluoroscopic examination of the spine showed several globules of iodized oil fixed in the root sheaths of the sacral nerves and the tip of the caudal sac. By thoracentesis 550 cc. of straw-colored fluid was removed from the right pleural cavity. Orchidectomy on the left side revealed metastatic lymphatic tissue around the testis and ductus epididymidis. Biopsy of the inguinal glands revealed a lymphoblastoma. The patient recovered slowly under roentgen therapy.

He returned again December 28 because of pain in the chest and shortness of breath. His condition gradually progressed and he died Jan. 29, 1940.

An autopsy showed lymphoblastoma involving the axillary, inguinal, thoracic and abdominal lymph nodes; fibrinous and fibrous pericarditis; massive, bilateral, widespread, pulmonary fibrosis, bilateral fibrous pleuritis; right encapsulated empyema; lipid pneumonia and terminal bronchopneumonia, and mild arachnoiditis.

Examination of the Spinal Cord.—Gross Description: No gross tumor was seen in the epidural space, nor did the dura mater appear abnormal. Numerous fine adhesions between the dura mater and the arachnoid membrane were found along the spinal cord. The pia-arachnoid membrane of the spinal cord appeared slightly thickened.

Microscopic Description: Sections stained for myelin showed a mild demyelination of the pyramidal tract in the lower

In all segments of the spinal cord the anterior horn cells were well stained and frequently contained small amounts of intracellular lipid. In the sacral region a few anterior horn cells were swollen and a few shrunken and surrounded by glial cells (neuronophagia). The other neurons of the spinal cord were not abnormal. The blood vessels showed mild medial thickening.



Fig. 3.—The spine of a patient the day after intrathecal injection of 20 per cent iodized oil. The light oil has extended farther along the spinal nerves than the usual iodized oil.

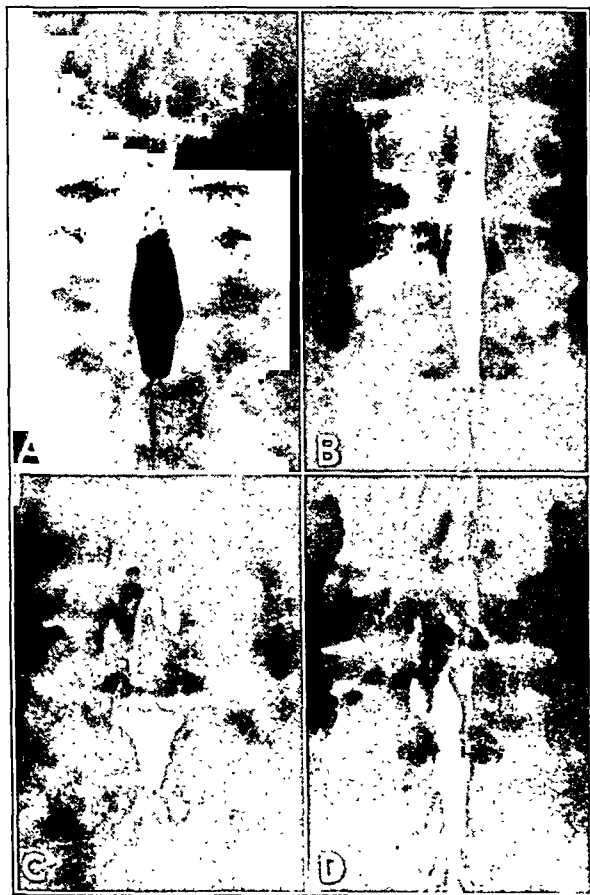


Fig. 2.—Appearance of the caudal sac containing iodized oil, the day after its injection (A and B) and four months after (C and D). The iodized oil is movable at the latter period, and the small globules fixed in the sheaths of the lumbar and sacral roots are evident.

thoracic and sacral regions with a corresponding gliosis of the lateral columns. In the cervical region the periphery of the lateral column was slightly pale, but there was no gliosis. There was, however, scattered demyelination of the column of Goll in the cervical region with slight gliosis. Except for these abnormalities, the myelin stains showed no abnormalities.

The arachnoid membrane was definitely thickened at all levels and occasionally contained a calcospherite. In its meshes were occasional lymphocytes. Sections of the second lumbar ganglion showed no abnormality in the cells or capsule of the ganglion.

The diagnosis, then, was mild arachnoiditis and mild myelopathy due to compression of the lower thoracic portion of the spinal cord.

COMMENT

The pathologic conditions in these 3 cases are similar in spite of the fact that they represent distinct temporal stages, the first showing the changes occurring at a week, the second those at six weeks and the third those occurring ten years after the injection of iodized oil. It must be emphasized that in 2 of these cases no operative procedures were carried out on the spinal cord and in the third a laminectomy was performed and the dura mater was opened.

In all 3 cases fine adhesions were present between the dura mater and the arachnoid membrane, but it seems likely that in the first case these changes were present before the injection of the iodized oil. In the second and third cases the iodized oil may have been responsible, although in the third case the presence of an epidural tumor and the operative procedure probably were factors. In the first case definite lymphocytic infiltration was present in the subarachnoid space, but

since there were 44 to 130 lymphocytes per cubic millimeter of spinal fluid before the intrathecal injection of iodized oil it is unlikely that the leptomeningitic infiltration was related to the injection. Only in the third case were significant abnormalities present in the spinal cord. These changes were mild and were compatible with the severe compression of the cord which the patient had suffered ten years previously. It should be noted that this patient had clinical signs of disease of the pyramidal tract—hyperactive reflexes and Babinski's reflex in both feet.

Comparative experimental studies have recorded more severe changes in the spinal cord and its membranes. Peiper and Klose²⁵ found degenerative changes in the myelin and areas of necrosis in the spinal cord when doses greater than 0.1 cc. of iodized oil were injected intrathecally in rabbits. Davis, Haven and Stone²⁶ injected 1.5 cc. of iodized oil cisternally in dogs after an artificial block had been produced in the spinal subarachnoid space, and they found proliferative changes in the leptomeninges and degeneration of the gray matter of the spinal cord. They concluded that the

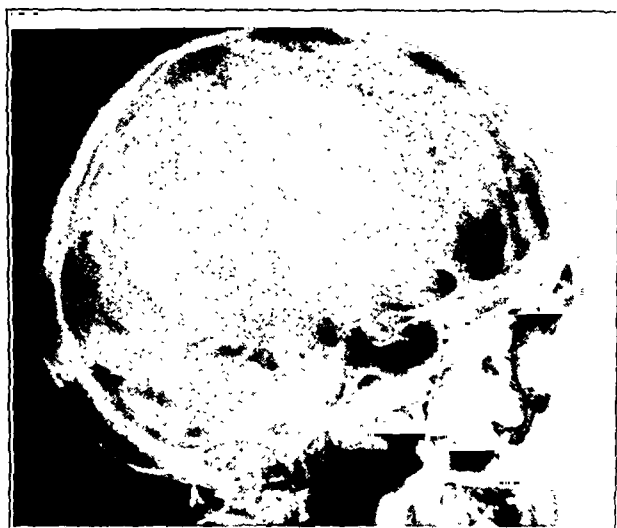


Fig. 4.—The skull of a patient, showing small globules of iodized oil about the brain stem and sella turcica. Two cc. of iodized oil had been injected nine months previously by lumbar puncture.

changes were due to the iodized oil, for only animals showing no clinical evidence of damage to the spinal cord were used for the injection. No mention was made of the alterations which may have occurred as the result of introducing a soft rubber drain in the extradural space to produce an artificial spinal block. In dogs Bruskin and Propper²⁷ described oil granulomas in the arachnoid membrane after intrathecal injection of iodized oil. Inflammatory vascular changes and degenerative alterations of the ganglion cells were found in the spinal cord. Lindblom²⁸ found evidence of acute leptomeningitis after he injected 1 cc. of iodized oil subdurally in rabbits. The leptomeningitis subsided in two or three weeks. Oljenick²⁹

found no gross changes twenty-four hours after cisternal injection of 1 cc. of iodized oil in the cisterna magna of a rabbit. In each of the preceding animal experiments the amount of iodized oil used was comparably much larger than the usual amount injected in man.³⁰

Lindblom³¹ studied the effect of both animal and vegetable iodized oils on the meninges. Various oils with different degrees of acidity were used, and it was found that the irritating effect decreased as the acidity decreased. Iodized animal oils, such as cod liver oil, were much more irritating than vegetable oils. The animal oil is emulsified by cerebrospinal fluid, and rapid splitting takes place, producing products, chiefly fatty acids and hydrogen iodide, which are irritating to the meninges.

Although the changes in the spinal cord and its membranes in animals after intrathecal injections of iodized oil are fairly severe, the constant pathologic changes—a slight proliferation of the arachnoid membrane with a few fine dural adhesions—in the human spinal cord following the injection of iodized oil are minimal. Constant parenchymal changes are not present. These alterations are in full agreement with the changes noted by Brown and Carr,³² who studied the spinal cord of a patient six months after an injection of iodized oil. Globus³¹ stated that the 3 patients he examined showed no evidence of leptomeningitis. Donat,³³ however, found in 1 case chronic leptomeningitis with iodized oil in a mass of inflammatory tissue.

These slight pathologic changes in the spinal cord and its coverings agree well with the fact that the iodized oil in patients not operated on is usually movable and flows freely up the spinal cord to the basal cisterns. If severe arachnoiditis were present one would expect the iodized oil to show numerous partial or complete obstructions within the spinal canal.

CONCLUSIONS

Intrathecal injection of iodized oil is followed in slightly more than half the cases by a mild fever of short duration, less frequently by headache and aggravation of previous symptoms. The cells and protein content of the spinal fluid are usually increased and may remain so for several days. Fatal reactions, although rare, have been reported.

Definite, permanent, clinical ill effects from the intrathecal injection of 2 to 4 cc. of iodized oil are extremely rare. Although the oil slowly becomes fixed in the sheaths of the spinal nerves and the caudal sac, it usually produces only mild arachnoiditis with fine adhesions between the arachnoid membrane and the dura mater. If, however, after the injection of iodized oil the dura mater is opened at operation, the oil commonly becomes rapidly encysted by proliferation of the arachnoid membrane. Pia-arachnoid reactions would therefore seem to be less likely if the dura is not opened.

Although about one third of the patients in whom iodized oil has been injected intrathecally have a varying number of small globules of it within the intracranial cavity, none has complained of any symptoms which might be referable to the oil.

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CHRONIC GRANULOCYTOPENIA CAUSED
BY EXCESSIVE SPLENIC LYSIS
OF GRANULOCYTES

REPORT OF CASE

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AND

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ST. LOUIS

Since the first report of a case of acute agranulocytosis by Schultz in 1922¹ numerous additional reports have continued to appear in the literature. The syndrome of granulocytopenia may arise under diverse conditions and from varied causes and may run either an acute or a chronic course. Hence it is distinctly neither a clinical nor a pathologic entity.

The various etiologies have been the subject of much investigation. The frequency with which certain drugs and industrial poisons may act as depressants of bone marrow is well known. Nutritional deficiencies,² bacterial toxins³ and hormonal imbalance⁴ have been found capable of producing the disease, at least experimentally. Acute agranulocytosis (which arises spontaneously and not as the obvious secondary effect of a known toxic agent) produces a more or less definite clinical picture and constant pathologic changes in the bone marrow.⁵

In 1939 Wiseman and Doan⁶ reported a new syndrome of acute agranulocytosis caused apparently by excessive lysis of neutrophils by the spleen. This condition is characterized by splenic enlargement, peripheral granulocytopenia and myeloid hyperplasia of the bone marrow. Its mode of production is of a nature radically different from other types of granulocytopenia, in which two characteristic changes in the bone marrow take place. These consist of certain degenerative changes in the myeloid cells and aplasia or a proliferation of myeloblasts and a failure of maturation. Even in the latter condition aplasia is said to occur if the patient has survived the initial phases of the disease.⁷ In the 3 cases reported by Wiseman and Doan there was myeloid hyperplasia of the bone marrow which was obviously compensatory in nature.

An additional case has been reported by Moore⁸ which was accompanied by a thorough study both of the bone marrow and of the peripheral blood. Examination of the spleen clearly revealed large numbers of neutrophils being phagocytized by macrophages. The condition seems analogous to congenital hemolytic icterus and thrombopenic purpura, in which there occurs excessive lysis of red blood cells and platelets respectively.

It is our purpose to report another case. The patient has been under medical care for the past six years. She is alive and well one year after splenectomy. The

pathologic conditions are in conformity with those noted in the 4 previously reported cases. The clinical history is of considerable interest.

REPORT OF CASE

History.—S. M. K., a white woman aged 31, entered the hospital complaining of a dull pain in the left upper quadrant of the abdomen, nausea and fatigue. The history of the present complaint extended back five years, and she had been hospitalized on five previous occasions. The pain, of a dull nature, did not radiate and was almost constantly present. On certain occasions it assumed a sharp, penetrating character, caused prostration and was associated with localized sweating over the splenic regions. These episodes were accompanied by fever, nausea and granulocytopenia. Successive white blood cell counts would reveal a steady drop of the leukocytes and, finally, complete disappearance of granulocytes from the peripheral blood. Remissions would then apparently occur spontaneously and were presaged by increasing numbers of immature forms of granulocytes in the peripheral blood. The average cycle lasted about three weeks. On previous admissions it had been found that the basal metabolic rate was low, averaging about —15 per cent. The patient had been given 3 grains (0.2 Gm.) of thyroid daily. Roentgen examination of the chest, the gastrointestinal tract and the vertebral column gave negative results. Cystoscopic

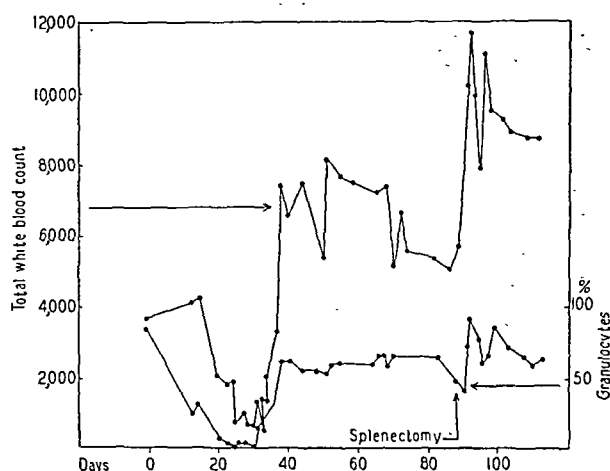


Fig. 1.—Total leukocyte count and percentage of granulocytes. The patient entered the hospital on the fifteenth day and was discharged on the one hundred and twelfth. There is a close correlation between the total number of leukocytes and the percentage of granulocytes.

examination had revealed low grade pyelitis on the left side on two occasions, which promptly cleared up on the administration of urinary antiseptics.

The initial attack had followed cystoscopic examination, during which the patient had been given a proprietary preparation of phenobarbital and aminopyrine. On two other occasions this preparation was administered before cystoscopic examination, and on both occasions granulocytopenia resulted. The patient, however, had attacks without the administration of drugs, and it is thought that the pain and associated symptoms which were the basis for the cystoscopic examination probably represented the beginning of a granulocytopenic interval and that the drugs were not important from an etiologic standpoint. This is substantiated by the fact that since splenectomy the patient has been given trial doses of both phenobarbital and aminopyrine without a fall in the number of granulocytes.

Physical Examination.—The patient was thin and somewhat anemic looking. The skin was dry and scaly. The pupils were round and equal, and the scleras were clear. Reaction to light and accommodation were both present. The ears, nose and throat were normal. No masses were palpated in the neck. The chest was of the asthenic type and symmetric. Expansion was free and equal, and the breath sounds were vesicular. The pulse rate was 100, and the rhythm was regular. The blood pressure was 100 systolic and 70 diastolic. There were no murmurs or thrills present. The abdomen was scaphoid.

From the Departments of Medicine, Surgery and Pathology, St. Louis University School of Medicine.

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CHRONIC NEUTROPEN A—MUETHER ET AL.

JOUR. A. M. A.
MAY 17, 1941

The liver, kidneys and spleen were not palpable. A definite area of tenderness, which was associated with muscle guard, was found in the left upper quadrant of the abdomen immediately beneath the costal margin. It was most noticeable anteriorly and extended laterally to the midaxillary line. Neurologic, pelvic and rectal examinations gave essentially negative results.

Laboratory Studies.—The blood showed red blood cells 4,120,000, hemoglobin 72 per cent and white blood cells 2,150. The platelet count was 255,440. A Schilling hemogram showed 6 stab cells, 5 segmented forms, 2 large lymphocytes and 87 small lymphocytes. The urine was essentially normal. The level of blood sugar was 85 and the nonprotein nitrogen 30 mg. per hundred cubic centimeters. The Kahn reaction was negative. Examination of the bone marrow showed moderate hyperplasia.

Course in Hospital.—The patient continued to complain of great pain, which was relieved only with narcotics. The temperature ranged between 102 and 104 F. Treatment with blood transfusions, bone marrow extract and pentnucleotide appeared to have small effect on the leukocyte count, which dropped steadily. From the fifth to the ninth day the percentage of granulocytes varied from 0 to 2 per cent, and the total white cell count was 550 to 850 (fig. 1). A reversal then occurred, and there was a progressive rise in the total count and the number of granulocytes in the peripheral blood. On the nineteenth day the leukocyte count had reached 7,500 and the percentage of granulocytes was 61. For the ensuing seven weeks the count remained stabilized within normal limits. As the patient continued to complain of pain in the left upper quadrant an exploratory laparotomy was done with the purpose of removing the spleen if no other pathologic condition was found. The spleen was removed. The patient made an uneventful recovery and was discharged after a period of observation.

Gross examination of the spleen revealed that it was approximately three times the normal size and weighed 325 Gm. At operation there was evidence of old perisplenitis, and there were multiple adhesions to the surrounding structures. The spleen was bright red and firm. On section the normal structure of the spleen was found intact. The malpighian corpuscles were prominent and appeared hyperplastic.

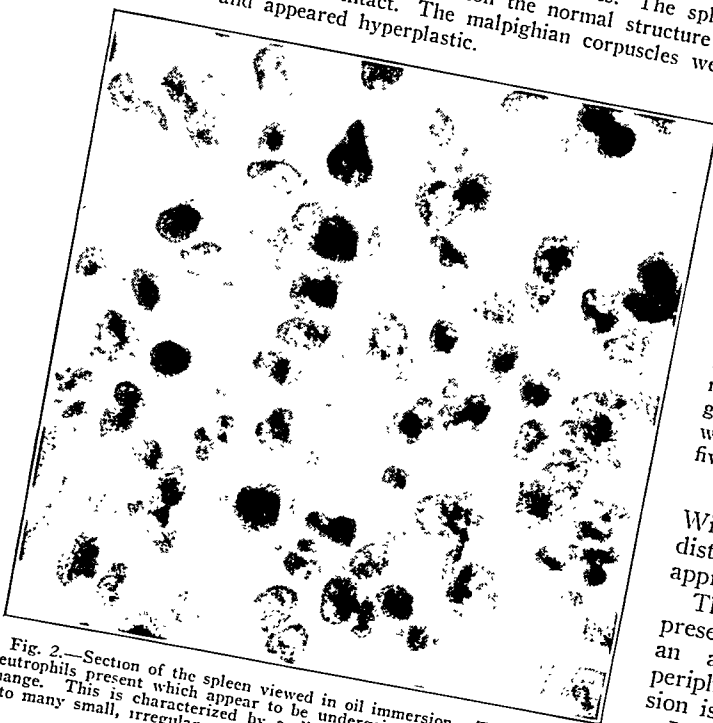


Fig. 2.—Section of the spleen viewed in oil immersion. There are many neutrophils present which appear to be undergoing a peculiar degenerative change. This is characterized by a dispersion of the chromatin material into many small, irregular masses.

Microscopic examination of the spleen revealed advanced congestion and moderate proliferation of the cells lining the sinusoids. These cells were in frequent mitosis. The malpighian corpuscles were large and prominent and occasionally showed accumulations of large, pale cells in their central portions.

The most striking feature was the presence of large numbers of neutrophils in the splenic pulp which were irregularly distributed and tended to be collected in focal accumulations. These averaged about the size of a high power field. In many of the high power fields more than half of the cells present were neutrophils. In some instances the neutrophils appeared

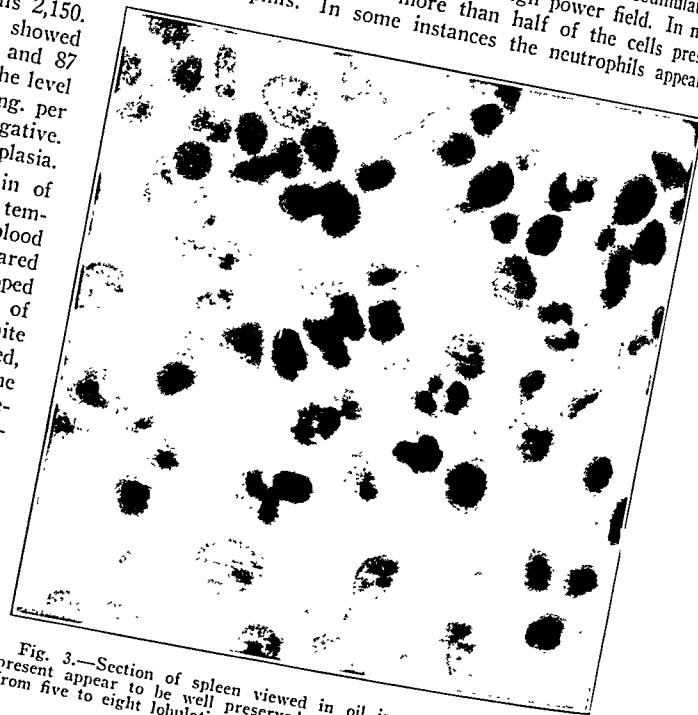


Fig. 3.—Section of spleen viewed in oil immersion. The neutrophils present appear to be well preserved and of the adult type. Many have from five to eight lobulations.

well preserved and of the adult type, having from five to eight lobulations in the nuclei (fig. 3). In other areas the neutrophils appeared to be undergoing a peculiar type of degenerative change characterized by dispersion of the nuclear chromatin into small irregular masses (fig. 2). In such cells the nuclei frequently appeared to have from fifteen to eighteen lobulations and the cytoplasm appeared to be degenerating or completely absent. There was a striking absence of eosinophils, young neutrophils and myelocytes. There was also a striking absence of any evidence of phagocytosis of the degenerating neutrophils, in contrast to the picture described in previously reported cases. Our patient has now survived for fourteen months and has had blood cell counts done at intervals of two weeks. During this period there has been a slight fluctuation in the total leukocyte count, but the ratio of mononuclear cells to polymorphonuclear cells has remained normal. The patient has gained weight and has returned to full time work, something which she had been unable to accomplish for the preceding five years.

We feel that this syndrome, previously described by Wiseman and Doan, as well as by Moore, represents a distinct clinical entity with a rational therapeutic approach.

The diagnosis of this condition seems to rest on the presence of a hyperplastic or normal bone marrow with an abnormal diminution of granulocytes in the peripheral blood. The tendency to spontaneous remission is worthy of emphasis. It must be carefully differentiated from other granulocytopenic states which will not be benefited by splenectomy. Careful study of the bone marrow and the peripheral blood should make the differential diagnosis relatively simple.

COMMENT
In many respects our knowledge of splenic physiology is still elemental. It is known, however, that one function is the destruction of granulocytes whose span

of activity has been served. The syndrome of acute agranulocytosis caused by excessive lysis of neutrophils is characterized by a great disparity between the number of neutrophils in the spleen and that in the peripheral circulation. This may logically be explained by postulating either that there is hyperfunction of the spleen in phagocytizing essentially normal neutrophils or that some error in development of the granulocytes exists and that as a result they are selectively removed by the spleen. The latter condition might be compared to congenital hemolytic icterus in which the more fragile red blood cells are phagocytized in excessive numbers.

The clinical symptoms of pain and fever appear unique and have not been stressed in previous reports of this syndrome. Fever might well arise as the result of cellular destruction. There was a rough correlation between the height of the fever and the degree of the granulocytopenia. Pain might arise as the result of tension within the spleen and pressure on adjacent structures. That this might have occurred on previous occasions is suggested by the number and density of the perisplenic adhesions noted at the time of operation.

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Clinical Notes, Suggestions and New Instruments

STOMATITIS VENENATA AND DERMATITIS OF THE ANAL ORIFICE FROM CHEWING POISON IVY LEAVES (RHUS TOXICODENDRON).

SEYMOUR H. SILVERS, M.D., BROOKLYN

The mucous membranes are thought to be less sensitive than the skin to eczematogenous allergens. The skin is often found extremely sensitive to minute doses of a particular allergen while the mucous membrane of the same person remains unaffected by the identical allergen. This fact is responsible for the recent attempts to desensitize sufferers from eruptions caused by poison ivy by giving them drops of the tincture or extract of poison ivy leaves or asking them to chew the leaves. The reason for this profound difference in sensitivity of the skin and mucous membranes is not known. Nor is this difference as common as it is thought to be by many. There are persons whose skin and mucous membranes are equally sensitive to an allergen. A patient demonstrating this dual sensitivity came under my care recently. The following case is an illustration of the fact that the giving of poison ivy preparations by mouth or suggesting the chewing of leaves to a patient may not always be innocuous.

REPORT OF CASE

K. H., a married woman aged 38, consulted me on July 7, 1940 for an intensely pruritic eruption of the face, lips and adjacent areas around the mouth and of the anal region. She had been unable to eat properly for the past two days because of pain involving her tongue and cheeks. For the past seven years she had had cutaneous eruptions from exposure to poison ivy plants. During the summer of 1939 she received injections to prevent these eruptions. These injections did not prevent or diminish an ensuing attack. At the time she received the injections she was told that chewing poison ivy leaves would help prevent these cutaneous outbreaks. The statement was repeated by many of her lay friends, who sympathized with her and suggested the chewing of leaves as a means of preventing the eruptions.

The patient visited the country during the week end of July 4, 1940 and while there thoroughly chewed two leaves of poison ivy (*Rhus toxicodendron*) which she picked with her hand. Two days later her mouth became sore, the lips became swollen and an eruption appeared on the skin about the mouth and on the hands. During the next few days the soreness of the

mouth became worse and extended deep into the pharynx. Eating solids and even semisolids became difficult because of the swelling and pain attending movements of the cheeks and tongue. Two days after the oral soreness was noticed the anal region became sore and itchy. Defecation was painful.

The patient was well developed physically. Examination showed swollen lips and an eruption surrounding the lips. She was in distress because of the pain experienced in trying to move the lips and mouth when talking. Radiating from the lips and decreasing in intensity there were scattered, ill defined, pinhead to lentil size vesicles and some red papules. The skin was somewhat swollen. The lips were swollen and cracked, showing superficial, crusted fissures. Fetor oris was strong. The mucous membrane of the tongue, cheeks, palate and pharynx was tender, grayish and edematous with an irregular surface. The anal area was red, swollen and extremely tender. The redness and edema extended $\frac{1}{2}$ to 1 inch (1.2 to 2.5 cm.) from the anal orifice. The dorsum of the hands showed a few scattered pink and skin-colored vesicles which caused no subjective symptoms.

Burow's solution ointment was applied three times daily to the lips, face, hands and anal region. The mouth was rinsed every two hours with a 0.125 per cent solution of zinc chloride. After three days, the oral lesions cleared sufficiently to enable the patient to eat semisolid foods without experiencing pain. The lesions of the hands, lips and face were much improved. The itching, pain and redness of the anal region persisted the longest.

Loveman¹ reported a case of stomatitis venenata due to oil of anise used in a cream to clean dentures. A positive reaction to a patch test showed that the skin, too, was sensitive to this oil. I² reported a case of stomatitis and dermatitis venenata, of the mucous membrane of the mouth and the skin around the mouth and lips, due to the oils of cloves and cassia present in a tablet used by dentists to clean the teeth. In addition to the usual redness and vesiculation, my patient showed purpuric macules in the affected areas of the skin and mucous membranes. Shelmire³ in his studies of contact dermatitis from weeds made a number of interesting observations. He concluded that sensitivity to plants is apparently general, affecting both the skin and the mucous membranes and that the dermatitis-producing principle of poison ivy is a dialyzable fraction of the oleoresin soluble in both water and urine. Shelmire found pruritus ani et vulvae and gastric disturbances among the 28 ivy-sensitive persons to whom he gave large doses of ivy oleoresins by mouth. The urethral orifices and surrounding areas of the female subjects who complained of pruritus ani et vulvae showed an intense erythema. After the patient had ingested a known quantity of oleoresin in corn oil and the urine and feces were collected for three days, Shelmire found that 30 per cent of the ingested oleoresin was excreted in the urine and the remainder was eliminated in the feces.

SUMMARY

A woman with a known sensitivity to poison ivy (*Rhus toxicodendron*) chewed the leaves on the advice of a physician and of friends. She incurred a severe eruption of the mucous membranes of the mouth and anal orifice in addition to dermatitis of the face, lips, hands and anal region. Apparently the allergens traversed the gastrointestinal tract unchanged. The patient did not complain of any gastrointestinal symptoms, although it is possible that the mucosa was also affected by the poison ivy allergen.

CONCLUSIONS

1. Stomatitis venenata and dermatitis of the anal orifice can result from the chewing of poison ivy leaves.
2. While it is possible to use the oral route for attempted desensitization, it is unwise to suggest the chewing of poison ivy leaves, for the dosage cannot be controlled by this method and untoward reactions may result.

920 Bushwick Avenue.

1. Loveman, A. B.: Stomatitis Venenata, *Arch. Dermat. & Syph.* 37: 70 (Jan.) 1938.

2. Silvers, S. H.: Stomatitis and Dermatitis Venenata with Purpura Resulting from Oil of Cloves and Oil of Cassia, *Dental Items Interest* 61: 649 (July) 1939.

3. Shelmire, Bedford: Contact Dermatitis from Weeds, *J. A. M. A.* 113: 1085 (Sept. 16) 1939. Nature of the Existant of Poison Ivy Dermatitis, *Arch. Dermat. & Syph.* 42: 465 (Sept.) 1940.

TYPHOID CARRIER—LEVI AND WILLEN

Jour. A. M. A.
May 17, 1941

OCCUPATIONAL DERMATITIS DUE TO PARACHLORMETACRESOL

W. H. GUY, M.D., AND F. M. JACOB, M.D., PITTSBURGH

We have observed 12 cases of vesicular dermatitis involving mostly the palm of the left hand of girls employed in labeling and capping whisky bottles. Two kinds of glue, lacquered labels and viscos caps were handled. Patch tests with glue, lacquered labels and washed viscos caps gave negative results. However, the fluid in which the viscos caps were shipped to the distillery produced positive reactions in all cases. The girls held several of the viscos caps wet with the preservative shipping fluid in the palm of the left hand preparatory to capping bottles. The dermatitis ensued in varying lengths of time in different persons and involved to a less extent the right hand and the dorsal surfaces of both hands. The shipping fluid was reported to contain 1 to 1.5 per cent of parachlormetacresol. After repeated attempts to obtain the chemical from the logical sources without avail we obtained parachlormetacresol from Dr. Louis Schwartz of the United States Public Health Service.

Patch tests with a 1.5 per cent aqueous solution of parachlormetacresol gave slightly positive results after twenty-four hours on the upper arm. A patch test on the palm of the left hand of one of us (W. H. G.) with a 1.5 per cent solution of parachlormetacresol produced a pruritic, vesicular dermatitis in four hours which persisted for one week. Washing the viscos caps in water before handling prevented the appearance of new cases.

7026 Jenkins Arcade.

A SIMPLE HEMOGLOBIN-RED BLOOD CELL RATIO TO REPLACE THE COLOR INDEX

RAPHAEL ISAACS, M.D., CHICAGO

The color index, taken as the ratio of the percentage of hemoglobin (compared to "normal") to the red blood cell count (compared to "normal") has been a useful clinical figure in differentiating iron deficiency from other types of anemia. However, the lack of single "normal" figures for the percentage of hemoglobin and red blood cell counts, as well as the differences in males and females, has always made the number somewhat arbitrary. With the advent of hemoglobinometers in which 100 per cent corresponds to 13.5, 14, 15.6 or 17 Gm., the problem is further complicated by the difference in readings of the percentages. These would give the same person different percentages on the different instruments. The same person could have a "normal" color index with one instrument, a high index with another and a low index with a third.

To avoid these discrepancies and still obtain a figure which would represent the same concept as the color index, the ratio of the number of grams of hemoglobin, multiplied by 3, to the red blood cell count, in hundred thousands per cubic millimeter, has been found useful. The formula is purely empirical and arbitrary, but it has been found that in normal blood 3 times the number of grams of hemoglobin gives a number which is approximately the same as the number of red blood cells in hundred thousands per cubic millimeter. When the number of grams multiplied by 3 is less than the figure for the red blood cells there is an iron deficiency, and when the number is greater the cells are "hyperchromic." As an example, if the number of grams of hemoglobin is 9.3 and the red blood cell count is 2,800,000 per cubic millimeter, the resulting ratio would be $\frac{27.9}{2800}$, or practically 1. If, in this example, the number of grams of hemoglobin had been 7 the ratio would have been $\frac{21}{2800}$, indicating an iron deficiency.

The advantage of this ratio is that comparisons to "normals" (which do not exist) are eliminated, and the figures used are obtained by direct observation. No different standard is needed for men and for women.

SUMMARY

A simple relationship between the hemoglobin content of the blood and the number of red blood cells may be expressed by this formula for "normal": Three times the number of

From the Department of Hematology, Michael Reese Hospital.

grams of hemoglobin per hundred cubic centimeters divided by the number of hundreds of thousands of red blood cells per cubic millimeter equals 1. It is distinctly less than 1 in hypochromic anemias and more than 1 in hyperchromic conditions

104 South Michigan Avenue.

THE TYPHOID CARRIER STATE TREATED WITH SULFAGUANIDINE

J. ELLIOT LEVI, M.D., AND ABNER WILLEN, M.D.
BALTIMORE

Reports by Marshall and his associates¹ on the treatment of acute bacillary dysentery and other intestinal infections suggested the use of sulfaguanidine (sulfanilylguanidine) in the typhoid carrier state.

REPORT OF CASE

W. M., a white man aged 38, a chef, was discharged from this hospital on Aug. 15, 1940 after a seven weeks confinement for typhoid. The diagnosis was confirmed by cultures of the blood, urine and stools as well as by the Widal reaction. After discharge, cultures of the stools remained persistently positive for Eberthella typhi. Cultures of the urine and blood were negative for the organism. The patient was readmitted October 13. Cultures of the bile and stools were still positive. The Graham-Cole test revealed poor filling of the gallbladder. On October 27 the patient was started on the therapeutic administration of soluble iodophthalein according to the method of Saphir and Howell.² He was kept on this regimen for one month, and the stools continued to show E. typhi. The patient was again admitted on December 10, and a cholecystectomy and appendectomy were performed two days later. Cultures of material from the gallbladder and the appendix, taken at operation, were positive for E. typhi. After operation, cultures of the stools showed the organism on December 18, 19 and 21, on December 30 and on Jan. 10, 1941. Beginning on January 10, sulfaguanidine was administered for one week (0.05 Gm. per kilogram of body weight every eight hours). Studies on the blood and urine were made during this period, but no evidence was observed of complications associated with the administration of the drug. Cultures of the stools taken on January 19, 20, 21, 23 (two cultures), 25 and 26 were negative for E. typhi. Cultures taken on February 7, 12 and 17 after the use of magnesium sulfate as a cathartic have all been reported negative for E. typhi by the Maryland Department of Health.

COMMENT

According to the data of Coller and Forsbeck,³ Whipple⁴ and Bigelow and Anderson⁵ in their combined series of 44 cases of the typhoid carrier state in which cure was effected by cholecystectomy, cultures of the stools became negative within three weeks after operation if cure was ultimately obtained. In this series there was 1 exception in which the bile was found positive for E. typhi eighteen months and permanently negative in twenty-six months after operation.

In the present case four weeks after operation the stool was still positive for E. typhi at the time sulfaguanidine was administered. The time elapsing since discontinuance of the drug has been brief, but on no occasion have the stools shown the presence of E. typhi. It is felt that this method of therapy is worthy of further trial.

Monument Street and Rutland Avenue.

- From the Medical Service of the Sinai Hospital.
Drs. C. R. Austrian and E. K. Marshall Jr., gave helpful advice.
The sulfaguanidine used in this study was supplied by Dr. E. K. Marshall Jr. through E. R. Squibb & Sons.
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3. Saphir, W., and Howell, K. M.: Soluble Iodophthalein in Treatment of Carriers of Typhoid-Paratyphoid Group, J. A. M. A. 114:1933 (May 18) 1940.
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5. Whipple, A. O.: The Surgical Treatment of Bile Typhoid Carriers, Ann. Surg. 90:631 (Oct.) 1929.
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Special Article

SULFATHIAZOLE-WINTHROP CONTAMINATED WITH PHENOBARBITAL

I. INTRODUCTION

MORRIS FISHBEIN, M.D., CHICAGO

On March 26, 1941 the headquarters office of the American Medical Association received a report calling attention to the contamination with phenobarbital of certain lots of sulfathiazole, manufactured by the Winthrop Chemical Company. Immediately, steps were taken to ascertain the seriousness of the situation. As soon as definite evidence was available, on March 28, a general warning was issued to the press and over the radio by the American Medical Association. This was

the first public warning against this hazard. Conforming to the policy of THE JOURNAL and of the Council on Pharmacy and Chemistry to supply information to the medical profession, THE JOURNAL published additional statements¹ to warn of the potential dangers associated with the use of the contaminated material.

Available evidence indicates that the first report suggesting unusual reactions following the use of sulfathiazole - Winthrop originated in Louisville, Ky., late in December 1940. Although the manufacturers began at once their efforts

Food and Drug Administration, has been of inestimable value to the office of the Council on Pharmacy and Chemistry and the Chemical Laboratory of the American Medical Association in the study of this unfortunate incident.) Detailed information now has been received from members of the medical profession about 56 patients. This evidence indicates that at least 47 patients presented symptoms compatible with those observed after the administration of a therapeutic dose or of an overdose of phenobarbital but have made full recovery as far as this office is aware. Histories indicate that 9 of the 56 patients received tablets from the contaminated lots of sulfathiazole and subsequently died. Convincing evidence is not available at this time to indicate clearly the causal relationship between the drug and the deaths that followed in time.^{1a}

Apparently only one batch of the sulfathiazole-Winthrop was heavily contaminated with phenobarbital, this being MP 029. The illustration of the label of Sulfathiazole-Winthrop (fig. 1) shows the method used by this firm in identifying different lots. In this instance the letters GP 252 have been circled by the photographer. This lot of sulfathiazole was satisfactory; the heavily contaminated tablets were marked MP 029. Others which were believed to be contaminated were marked MP 051, MP 076 and MP 118.

In the following articles Dr. A. E. Smith of the office of the Council on Pharmacy and Chemistry has described the symptoms observed in this unusual incident, and Drs. A. E. Sidwell Jr. and A. R. Menotti of the American Medical Association Chemical Laboratory have reported their study of the chemical examination of the contaminated material.

II. CLINICAL ASPECTS

AUSTIN E. SMITH, M.D., CHICAGO

SULFATHIAZOLE

At the request of the Council on Pharmacy and Chemistry, Dr. Perrin H. Long prepared a preliminary report² on the thiazole derivatives of sulfanilamide so that the medical profession might be informed about these new drugs. The report was published in THE JOURNAL before sulfathiazole was released for interstate commerce as a new drug under the Food, Drug and Cosmetic Act. This preliminary report was followed by a statement³ in THE JOURNAL informing the medical profession that certain brands of sulfathiazole had been accepted as conforming to the rules of the Council on Pharmacy and Chemistry for admission to New and Nonofficial Remedies.

In the description of the drug which appears in this Council communication, the toxicity, indications for use and suggested dosage are described. Clinically, the drug has been used primarily in the treatment of pneumococcal pneumonia, infections due to Staphylococcus aureus or Escherichia coli, and in the treatment of gonorrhea in the male; its use in other infections is undergoing extensive investigations.

The toxic manifestations which have been reported following sulfathiazole therapy necessitate daily atten-

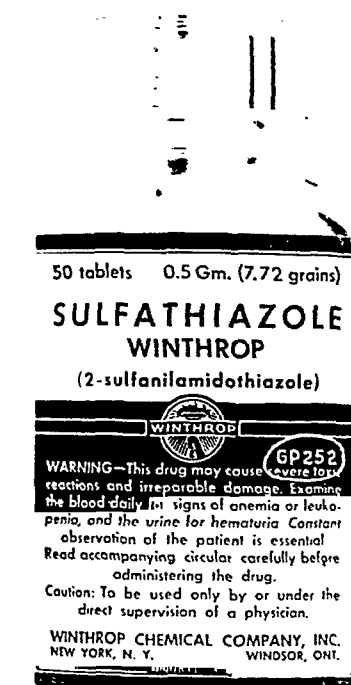


Fig. 1.—Label for sulfathiazole-Winthrop, lot GP 252. This particular lot was satisfactory. The grossly contaminated tablets were in bottles marked with the lot number MP 029.

to recall the tablets, the Food and Drug Administration apparently did not receive pertinent information until March 20; this resulted from a report originating in Boston. Immediately thereafter government inspectors were sent throughout the nation to secure all of the contaminated sulfathiazole still in circulation.

As soon as the office of the Council on Pharmacy and Chemistry received reports of the unusual reactions which were occurring following prescription of the remedy, telegrams were sent to physicians requesting details. Replies received at the Council office revealed indicative information which, when followed, resulted in the securing of data on other cases not originally reported to the headquarters office. (Assistance from Mr. J. O. Clarke, Chief of the central division of the

1. Sulfathiazole Contaminated with Phenobarbital—A Warning. Current Comment, J. A. M. A. 116:1527 (April 5) 1941; Sulfathiazole Contaminated with Phenobarbital, *ibid.* 116:1648 (April 12) 1941.

From the office of the Council on Pharmacy and Chemistry, American Medical Association, Chicago.

1a. In all fairness, it should be noted that a coroner's jury of six physicians determined that the death of 1 patient could bear no relation to the possible ingestion of phenobarbital.

2. Long, Perrin H.: Thiazole Derivatives of Sulfanilamide: Sulfamethythiazole, J. A. M. A. 114:870 (March 9) 1940.

3. Sulfathiazole. New and Nonofficial Remedies, J. A. M. A. 116:308 (Jan. 25) 1941.

dance by the physician and are similar to those observed in sulfanilamide or sulfapyridine therapy, with the exception that the former drug causes less nausea, vomiting and dizziness than does sulfapyridine. Mental disturbances or psychoses are uncommon, but when they are present it is best to stop administration of the drug and force fluids.⁴ Drug fever is fairly common and may occur at any period but it is usually seen between the fifth and ninth days of treatment. The Council report³ asserts that as far as is now known sulfathiazole can be used concurrently with any other drugs with the possible exception of magnesium sulfate or other saline laxatives. However, more recently Long⁴ stated that there were no contraindications to the concurrent use of other necessary drugs with the possible exception of anesthetic doses of certain barbiturates, but he enlarges his statement by acknowledging that it has been shown that patients who have been receiving sulfanilamide or sulfapyridine "apparently suffer no ill effects from the administration of such anesthetics as sodium pentothal." Dizziness following the use of sulfathiazole is uncommon, and Goodman and Gilman⁵ point out that psychoses or delirium has been reported by several investigators, although central nervous system phenomena are uncommon; Finland and his co-workers observed psychoses in 3 patients in a series of 165, the fever having previously subsided, and Abernathy reported that 4 patients had delirium in a series of 35.

PHENOBARBITAL

The standards for phenobarbital are described in the United States Pharmacopeia, the actions and uses in New and Nonofficial Remedies.⁶ Complete statements on the pharmacology and clinical use of barbituric acid derivatives are well described in a number of textbooks on pharmacology and therapeutics. As is well known, the barbiturates can be used to obtain depression of the central nervous system ranging from slight sedation to deep coma and death. It is sometimes forgotten that these drugs are not analgesics and may not produce sedation if there is present pain which is severe or uncontrolled; in fact, it has been stated⁵ that delirium may follow when used alone in the presence of pain. Emotional disturbances are not infrequent and may be especially prominent in patients showing idiosyncrasy. Sollmann⁷ states that some patients show excitement rather than depression and give the appearance of inebriation.

Recently there have been renewed studies in the physiology of the shock sometimes observed following an overdosage of a barbiturate. When administered intravenously, large doses depress the central vasomotor center, and peripheral vasodilatation and hypotension may follow.⁵ Again, dilatation of the smaller blood vessels may occur as the result of a direct effect on the musculature; if the capillary beds are dilated and injured, shock may ensue. These authors⁵ claim that the fall in blood pressure after oral ingestion is largely due to the anoxia which results from the decreased pulmonary ventilation, respiration being affected early in acute poisoning. Shallow respiration together with

hypotension are favorable to the onset of hypostatic pneumonia, although pulmonary edema or hypostatic pneumonia may result solely from direct depression of the respiratory center.⁵

The most prominent symptoms associated with overdosage of the barbiturates are drowsiness, deep sleep, coma and death if the amount ingested is of sufficient quantity. These may be the only symptoms or they may be preceded by a period of dizziness, excitement or delirium; if recovery ensues, it is not uncommon to observe restlessness, irrationality or excessive activity. It has been stated⁵ that barbiturate poisoning usually occurs when an amount has been ingested which is equivalent to from five to ten times the full hypnotic dose; when fifteen times the hypnotic dose has been absorbed, it is usually difficult to save the life of the patient.

The contraindications to the use of the barbiturates have been the subject of discussion on many occasions and are in general familiar to the medical profession. However, a recent statement⁵ succinctly warns of interesting potential dangers: "Untoward responses attributable to the barbiturates are particularly likely to occur in patients with fever, hyperthyroidism, diabetes mellitus, severe anemia and congestive heart failure."

CASES REPORTED TO BE ASSOCIATED WITH THE PHENOBARBITAL-CONTAMINATED SULFATHIAZOLE

According to the report of the Chemical Laboratory of the American Medical Association, a considerable number of tablets of Sulfathiazole-Winthrop (MP 029) contained approximately 60 per cent (from 330 to 350 mg. of phenobarbital to each tablet) of phenobarbital and negligible amounts of sulfathiazole. Some of the tablets in the other MP series contained traces of phenobarbital (from 5 to 15 mg.) and full amounts of sulfathiazole.

From the clinical point of view there are two important factors to consider in the evaluation of those cases in which heavily contaminated tablets were purported to have been administered. First, the patient was not receiving sulfathiazole in adequate amounts; second, by unknowingly administering such excessive doses of a barbiturate in the pneumonia cases, the physician was adding "insult to injury" by giving a marked respiratory depressant for a condition which was already taxing the respiration. Information forwarded by members of the medical profession indicates that at least 56 patients could have received the contaminated tablets. The total number conceivably may increase, as letters are continuing to arrive at the Council office.

From one physician it was learned that 8 patients became narcosed after receiving some of the tablets; fortunately all eventually recovered on discontinuance of the drug. Another telegraphed: "Pneumonia patient became drowsy and more or less comatose after administration of usual dose of sulfathiazole. Some hours after discontinuance of drug patient regained consciousness. Recovered from pneumonia." From still another source it was reported that a pneumonia patient received four of the tablets and became semicomatose within thirty minutes but was given two more tablets without consultation of the attending physician. On observing the condition of the patient six hours after the initial administration of the drug, the patient was taken to the hospital; the case terminated within ten days in death. A second pneumonia patient received the same amount of

4. Long, Perrin H.: The Clinical Use of Sulfanilamide, Sulfapyridine, Sulfathiazole, Sulfaguanidine and Sulfadiazine in the Prophylaxis and Treatment of Infections, *Canad. M. A. J.* 44: 217 (March) 1941.

5. Goodman, Louis, and Gilman, Alfred: The Pharmacological Basis of Therapeutics, New York, Macmillan Company, 1941.

6. New and Nonofficial Remedies, 1940.

7. Sollmann, Torald: A Manual of Pharmacology, Philadelphia, W. B. Saunders Company, 1936.

drug but recovered after lying in a semiconscious state for five days. Three other cases of complete collapse have been reported, with recovery in all.

Other physicians observed a period of "deep sleep" for four hours in a child of 6 years, continuous "sleep" for forty-eight hours in a male being treated for gonorrhea, profound "sleep" in a boy of 9 years after receiving a second tablet, and coma following the administration of 15 grains (1 Gm.) with recovery in two days but a similar reaction for seven hours when $7\frac{1}{2}$ grains (0.5 Gm.) was administered two weeks later. These reports, together with other statements received at the Council office, indicate that drowsiness, stupor and coma were predominant. However, other symptoms commonly found in patients who have received excessive doses of a barbiturate were frequently noticed.

A woman of 78 years became disoriented, drowsy and complained of diplopia after receiving four tablets given in four doses at four hour intervals. A man after ingesting 60 grains (4 Gm.) over a period of twelve hours had to be relieved of his duties at work and on his way home was unable to distinguish on which side of the road were the people he saw on the highway. A number of patients receiving treatment in a venereal disease clinic complained of "dizziness and intoxication as if from alcohol." Severe reactions were obtained even with moderate doses. A baby of 19 months died thirty-six hours after receiving 2 grains (0.13 Gm.) of the drug; at the inquest a jury of six physicians determined the cause of death to be pneumonia. An elderly woman suffering from pneumonia was sent to a hospital in coma and showing anuria; another had incoherent speech, incoordination and emotional instability.

A physician, reporting 4 cases, mentioned a boy of 13 years who became dizzy, disorientated, hyperexcitable and irritable to the slightest stimulus within twenty minutes after ingesting 2 Gm. of the contaminated sulfathiazole tablets. Over a period of a week in the hospital the delirium lessened with the aid of sedation, although the patient occasionally became excitable and noisy. Significantly enough, the temperature suddenly rose to 104 F. and remained in that neighborhood for several days after being normal for a week. At the same time an extensive maculopapular eruption appeared. Eventually the patient recovered and was discharged from the hospital. A second patient suddenly collapsed after taking sulfathiazole from the contaminated lot of tablets. On examination he was cyanotic and showed Cheyne-Stokes respiration, and the pulse was imperceptible. After stimulants had been administered the patient recovered but remained weak and fatigued. A subsequent course of therapy with sulfapyridine produced no similar reactions. The third patient, also with pneumonia, became drowsy and unable to speak clearly after the ingestion of 30 grains (2 Gm.); several days passed before the speech defect and mental dullness disappeared. The fourth patient, a child of $3\frac{1}{2}$ years, became drowsy and passed into deep coma thirty minutes after she had received 15 grains (1 Gm.) of the material. After several days this patient also recovered. All patients complained of severe headache while recovering. The apathy, mental confusion, delirium and disorientation in some instances led physicians to question whether the patients might have encephalitis. In three cases the reports of examination of spinal fluid were negative, however.

One of the deaths reported occurred within twelve hours after the administration of sulfathiazole from the contaminated lot of tablets to a patient with pneumonia and neurosyphilis. Two deaths reported by one physician dealt with a man aged 74 with bronchial pneumonia and myocarditis and a man with a streptococcic infection of the throat. The former "went to sleep and never woke up," the latter was shown to have a streptococcic bacteremia. Another death, as reported by the physician, occurred in an elderly woman with pneumonia and marked emaciation; the physician did not consider that medication may have contributed to the death. Four other cases terminating in death included a man with acute retention and a possible brain abscess, who was moribund when the drug was administered; a man with progressive congestive heart failure, syphilitic cardiovascular disease and terminal pneumonitis, who was restless and slept at short intervals but showed no evidence of coma or stupor; and 2 surgical cases in which, according to the attending physician, signs of stupor were not evident up to the time of death.

COMMENT AND SUMMARY

All of the 52 patients reported to have received the contaminated Sulfathiazole-Winthrop, but who recovered, presented some of the signs and symptoms similar to those observed in patients under the influence of therapeutic or excessive doses of a barbiturate. These symptoms included drowsiness, stupor, coma, restlessness, irrationality and delirium, eye disturbances, decreased rate and depth of respiration, and hypotension accompanied by signs of shock or collapse. None of these reactions are commonly noticed during sulfathiazole therapy. It has been stated that reactions are particularly liable to occur in patients with fever, diabetes mellitus or congestive heart failure; significantly enough, histories of some of the patients indicated that they were suffering from fever, diabetes mellitus and congestive heart failure.

While sufficient evidence is not at hand to establish definitely a causal relationship between the ingestion of the drug and the reported deaths, sufficient evidence exists in the statements forwarded to the Council office to indicate that the contaminated tablets may have contributed to the deaths in some cases. The amount of phenobarbital which any patient may have received is difficult to estimate accurately, as some of the sulfathiazole tablets were contaminated whereas others were comparatively free of contamination. It may be noted, however, that the ingestion of only one of the heavily contaminated tablets could provide the patient with 5 grains of phenobarbital. Fortunately many recovered after presenting evidence of severe reactions.

REPORT OF CHEMICAL EXAMINATION OF SULFATHIAZOLE-WINTHROP, CONTAMINATED WITH PHENOBARBITAL

A. E. SIDWELL JR., PH.D., AND A. R. MENOTTI, PH.D.
CHICAGO

To obtain information about the nature and extent of contamination with phenobarbital of certain specimens of tablets sulfathiazole-Winthrop, it was considered desirable to subject some of the tablets to chemical examination. Through the courtesy of the Winthrop Chemical Company, Inc., a number of samples

were obtained from the specific lots of tablets, MP series, in which contamination was believed to have occurred. Samples were provided from every container in which these tablets were stored in the factory under "quarantine." In addition, two samples of the tablets from lot MP 029 were obtained from the Food and Drug Administration. A method of examining these tablets to detect and determine phenobarbital was devised, and the results of the examination are here reported. For comparison, specimens of sulfathiazole-Winthrop from lots known to be uncontaminated, and a specimen of tablets of luminal-Winthrop, a brand of phenobarbital, were examined concurrently.

Sulfathiazole-Winthrop is marketed in the form of tablets containing 0.25 Gm. and 0.5 Gm. of that substance. For the purpose of tableting, sulfathiazole is mixed with an excipient consisting essentially of cornstarch. Small amounts of stearic acid and talc are added to obtain desirable physical properties. The finished tablets have the form of short cylindric rods

for an increased amount of ash, presumably from the addition of talc, there is no essential difference in composition of these tablets manufactured at different times. The active ingredient in each amounted to about 84 per cent of the total weight. The average weight for each tablet was determined by weighing from twenty

TABLE 1.—Analysis of Tablets of Sulfathiazole-Winthrop

	Lot GP 252	Uncontaminated MP Series	Lot BR 252
Average weight.....	0.603 Gm.	0.597 Gm.	0.605 Gm.
Sulfathiazole content.....	83.0 per cent	83.7 per cent	84.0 per cent
Stearic acid content.....	1.7 per cent	1.4 per cent	0.6 per cent
Other excipients by difference (starch, talc).....	14.4 per cent	14.9 per cent	15.4 per cent
Ash.....	0.05 per cent	2.2 per cent	2.0 per cent

to thirty tablets. Sulfathiazole was determined by the method described in New and Nonofficial Remedies in the section dealing with that substance.³ Stearic acid was extracted completely with petroleum ether of low boiling point and weighed after removal of the solvent. It was identified by its melting point and neutral equivalent. The starch present was identified as cornstarch by microscopic comparison with known specimens. Talc, when present, was identified by the appearance of the ash.

EXAMINATION OF CONTAMINATED TABLETS

Method.—Each tablet was analyzed separately. After some preliminary tests the following procedure was found to be satisfactory for the detection of pheno-

TABLE 2.—Results of Examination of Tablets Sulfathiazole-Winthrop for Phenobarbital Contamination

Laboratory Identification No.	Manu- facturer's Code No.	Number of Tablets Examined	Number of Tablets Found to Contain Pheno- barbital	Amount of Phenobarbital Found per Tablet	Amount of Pheno- barbital Found, per Cent
1	MP 029	100	10	0.350 Gm.	58.7
2		12	11	0.345 Gm.	59.3
3	MP 029	72	7	0.334 Gm.	55.2
4		89	1		
5		83	0		
6		85	0		
7	MP 051	20	0		
8		20	3	0.005 Gm. (upper limit)	
9	MP 076	10	0		
10		10	0		
11		10	0		
12		10	0		
13		10	0		
14		10	0		
15		10	0		
16		10	0		
17	MP 118	15	8	0.0075 Gm. (upper limit)	
18		15	0		
19		14	2	0.015 Gm. (upper limit)	
20	Physically	10	0		
21	imperfect tablets	10	0		

barbital in mixtures containing sulfathiazole, cornstarch, stearic acid and other excipients present in the tablet:

A single tablet is placed in a 50 cc. beaker containing approximately 10 cc. of freshly distilled, residue-free ether. The tablet is crushed to a powder; the mixture is stirred and then allowed to stand for about five minutes. The ether solution is decanted into another 50 cc. beaker and evaporated to dryness on a steam bath, after which the residue is cooled

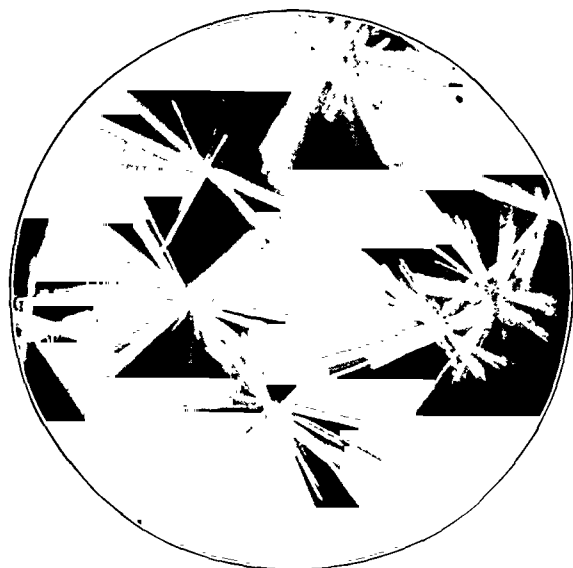


Fig. 2.—Crystals of phenobarbital as seen with the polarizing microscope.

with convex ends which form the tablet faces. Each of the 0.5 Gm. tablets is about 10.5 mm. in diameter and 6.5 mm. in length through the center of the faces. The tablets bear an impressed W on one face. The reverse face is scored to facilitate division into halves and one eighth of a tablet.

EXAMINATION OF UNCONTAMINATED TABLETS

Chemical examination of a number of uncontaminated tablets of sulfathiazole-Winthrop of the MP series yielded results provided in table 1. There also are listed in the table data obtained on chemical examination of tablets of sulfathiazole-Winthrop from lots identified as GP 252 and BR 252. The tablets from lot GP 252 were said to have been manufactured prior to those of the MP series, and tablets of BR 252 were manufactured later. Lot GP 252 was the source of samples originally submitted by the company to the Council on Pharmacy and Chemistry. The composition of these tablets having been found satisfactory and the other requirements of the rules of the Council having been met, sulfathiazole-Winthrop was declared accepted for inclusion in New and Nonofficial Remedies.³ Except

and examined. Stearic acid appears as a slight film, with perhaps some crystalline structure apparent in the residue from the ether extract. Considerable amounts of crystalline residue indicate the presence of phenobarbital, which may be identified by its crystalline structure, melting point and other characteristics.

To detect traces of phenobarbital, small residues from the ether extracts are examined under a polarizing microscope fitted with a heating stage. The contents of the beaker are brought to a temperature above the melting point of stearic acid and below that of phenobarbital. This procedure obviates any possibility of interference of stearic acid with the appearance of phenobarbital. By this means the presence of small amounts of phenobarbital is indicated by characteristic crystals such as those illustrated in figure 2. The phenobarbital may be further identified by various means.

The melting point of crystals of phenobarbital, isolated from contaminated tablets, was found to be 172 to 175 C. Control experiments on uncontaminated tablets to which were added varying amounts of phenobarbital showed that as little as 1 mg. of phenobarbital could be detected by the method described.

When phenobarbital was not found the material from ten tablets was combined, extracted with ether and subjected to reexamination for traces of phenobarbital. When tablets contained phenobarbital in amounts estimated to be larger than 5 mg., the material was assayed for phenobarbital according to the Alternative Method-Official described in "Methods of Analysis of the Association of Official Agricultural Chemists."⁸ Because of its low solubility in a mixture of chloroform-ether, sulfathiazole was found not to interfere in this determination.

Results.—The results of examination of tablets of sulfathiazole-Winthrop for contamination with phenobarbital are provided in table 2. The specimens designated by numbers 1 and 2 were tablets supplied through the courtesy of the Food and Drug Administration. The specimens identified by numbers 3 to 21 inclusive were those supplied by the manufacturer. Except for the physically imperfect tablets there were no significant differences in the appearance of the various tablets of the lots of sulfathiazole-Winthrop designated by the letters MP. Slight differences in weight, fragility, color and design of the scribing apparently had no relation to the question of whether or not the tablets were contaminated with phenobarbital.

The results show that not all of the tablets in the MP 029 series were contaminated, but those which were contaminated contained practically 60 per cent of phenobarbital. In two specimens, 1 and 3, about 10 per cent of the tablets contained phenobarbital. In another sample of tablets (number 4) nearly all were uncontaminated; and in another (number 2), only one tablet out of twelve was uncontaminated.

Lot numbers identified by the firm as MP 051, MP 076 and MP 118, according to the manufacturer were made later than lot MP 029. Relatively few of the tablets examined from those made later were found to be contaminated, and in these the amount of phenobarbital was small. These observations bear out the report that the original contamination occurred in lot MP 029 and that the subsequent lots became involved because some tablets from the MP 029 series were ground up and added to the mixture of material for other lots in the MP series.

It may be noted from the table that the tablets in the MP 029 series which contained phenobarbital had slightly less than 60 per cent. As shown in table 1, the active ingredient in uncontaminated tablets of sulfathiazole-Winthrop amounted to 84 per cent. Further examinations of the heavily contaminated tablets were made and, for comparison, examination also was made of tablets of luminal-Winthrop, a brand of phenobarbital, purchased on the market. The results of chemical examination of a specimen of tablets luminal-Winthrop, 1½ grains, lot LP 215, are shown in table 3, together with results obtained on further examination of heavily contaminated sulfathiazole tablets of the MP 029 series and uncontaminated specimens of lot GP 252.

It may be noted that the compositions reported in table 3 for grossly contaminated tablets sulfathiazole-Winthrop and for tablets luminal-Winthrop, 1½ grains, appear to be identical. This fact may be of significance in attempts to trace the origin of contamination. The contaminated tablets of sulfathiazole-Winthrop, lot MP 029, which caused the difficulty, had a percentage composition essentially similar in all respects to that of

TABLE 3.—Tablets Luminal-Winthrop and Sulfathiazole-Winthrop

	Tablets Luminal- Winthrop (LP 215), per Cent	Contaminated Tablets "Sulfathiazole"- Winthrop (MP 029), per Cent	Tablets Sulfathiazole- Winthrop (BR 252), per Cent
Sulfathiazole.....	....	0.0 to 0.5	84.0
Phenobarbital.....	58.9	58.7	....
Excipient (cornstarch, stearic acid, tale).....	41.0	41.0	16.0
Ash content.....	2.9	3.4	2.0
Color of ash.....	Grey	Grey	White
Reaction of ash.....	Alkaline (pH 10)	Alkaline (pH 10)	Slightly acid (pH 6)

tablets luminal-Winthrop except for negligible quantities of sulfathiazole.

SUMMARY AND CONCLUSIONS

Tablets of sulfathiazole-Winthrop, reported to have been contaminated with phenobarbital, were examined. Tablets from lot MP 029 were found to be either uncontaminated or to contain about 60 per cent of phenobarbital, which is the relative amount of phenobarbital found in tablets of luminal-Winthrop. Likewise the inert ingredients of these contaminated sulfathiazole tablets and of luminal tablets were similar. Of the different samples of sulfathiazole provided by the firm for the purpose of examination, the highest incidence of contamination was about 10 per cent, the average incidence being much less. Except by chemical methods it was not possible to tell from examination of the tablets whether or not they might be satisfactory tablets of sulfathiazole or tablets containing about 5½ grains of phenobarbital. The incidence of contamination of other tablets in the MP series provided by the firm was small and the extent was slight.

The Feeling of Good Health.—One may be not definitely sick and yet lack the feeling of good health. This is expressed at times as not being up to "par." Health is not only a condition of freedom from disease but also a quality of life, and it is to our advantage to keep ourselves at the highest and best level of health attainable.—Williams, Jesse Feiring: *Healthful Living*, New York, Macmillan Company, 1941.

8. *Methods of Analysis of the Association of Official Agricultural Chemists*, ed. 5, p. 574, paragraph 46.

Therapeutics

THERAPY OF THE COOK COUNTY HOSPITAL

EDITED BY DR. LEROY H. SLOAN

THE THERAPY OF INFLUENZA

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Influenza has been essentially an epidemic disease, appearing in all parts of the world at variable intervals though exhibiting a certain periodicity and seasonal incidence. In addition to epidemic occurrence there have been a number of major pandemics in which the disease has spread with extraordinary rapidity and with a high incidence of morbidity and mortality. The last of these major pandemics was in 1918-1920. Preceding this there was a worldwide occurrence in 1889-1890 and also in 1847. The clinical and pathologic manifestations in all were of sufficient similarity to make certain that in each instance the same disease existed even though the cause was obscure. Epidemics appearing in 1769 and 1737 were probably identical.

Following the pandemic of 1918-1920 the disease recurred, and it has continued to make its appearance in minor epidemic forms in various parts of the world and for limited periods. These subsequent outbreaks, while showing the essential characteristics of the disease as it appeared in pandemic form, have been of milder type, with fairly high morbidity but distinctly lower mortality, displaying an absence rather than a presence of complications.

In sporadic outbreaks it is often difficult to identify the disease as influenza. In fact, respiratory diseases of all types, and even some nonrespiratory diseases, have been loosely called influenza (commonly the "flu"). This term covers a wide variety of clinical forms including the common cold both of epidemic and of sporadic variety. Respiratory infections caused by the hemolytic streptococcus, and pneumococcal infections too, are loosely included in this terminology, besides a variety of infections by other organisms commonly found in the respiratory tract. Likewise virus diseases not infrequently have been reported by careful observers under such terms as "influenza-like" infections.¹

Jordan² in his monograph on influenza stated that the loose use of the term influenza had been the subject of comment by both physicians and patients. He referred to Humbolt's statement in which he designated influenza as "that senseless definition of a pathologic X." Mrs. Carlyle also was quoted: It appears that she had been subject to a number of attacks which her physician diagnosed as influenza. She expressed doubt in one of her letters by stating "Medical men all over the world have merely entered into tacit agreement to call all sorts of maladies people are liable to in cold weather by one name, so that one sort of treatment may serve for all, and their practice is thereby greatly simplified."

As the term "grip" and "intestinal grip" followed for many years the epidemic of 1889-1890, so the term "flu" and "intestinal flu" has covered a multitude of minor infections since that of 1918.

1. Reimann, H. A., and Stokes, Joseph, Jr.: An Epidemic Infection of the Respiratory Tract in 1938-1939: A Newly Recognized Entity, *Tr. A. Am. Physicians* 54: 123, 1939. Reimann, H. A., and Havens, W. P.: An Epidemic Disease of the Respiratory Tract, *Arch. Int. Med.* 65: 138 (Jan.) 1940.
2. Jordan, E. O.: Epidemic Influenza: A Survey, Chicago, American Medical Association, 1927.

At the present time doubt as to the cause of the disease can no longer exist and etiologic diagnosis is now possible.³ The relation of a specific filtrable virus seems clearly established for at least one form. The virus can be isolated by spraying washings of the nasopharynx into the nares of ferrets, from which the true strain can then be obtained. It has been possible also to culture the virus on the chorioallantoic membrane of the chick embryo, which also serves for its primary isolation. It is thus different from the virus of the common cold, which apparently will not develop under these conditions.⁴ The effects of the virus can be neutralized by the serum of animals or of persons who have recently recovered from the disease. The antigenic properties of the virus aid in diagnosis by a complement fixation test of the serum infected persons or animals. A flocculation reaction has also been demonstrated when the serums of patients who have recovered from the disease have been mixed with suspensions of lung tissue of mice infected with the specific virus.⁵ By methods such as these it is possible to differentiate this virus from other similar ones. A close relationship between human influenza and that of swine has been suggested by such observations.⁶ The results strongly suggest the identity or close relationship of the two diseases.

Magill and Francis⁷ showed that there were both decided differences and many similarities in the antigenic characteristics of twenty-four strains of epidemic influenza virus. The differences were not great enough to separate them into distinct types. The multiplicity of strains may account for repeated attacks to which certain persons seem to be susceptible. The duration of immunity is relatively short.

Thus it can be said that, while much has been learned of the etiology of the disease, further studies are necessary to clarify important factors. The prevalent epidemic may offer the opportunity to clear up some of the gaps present at this time. The relationship of *Haemophilus influenzae* to the disease is now established as that of a secondary invader. The same is true of other organisms, various types of pneumococci and streptococci, all of which were found and considered possible causal factors in the last and previous pandemics. Reimann⁸ stated that three forms of pulmonary infection have been called influenzal pneumonia. The first is caused by the virus itself, the second by *Haemophilus influenzae* and the third represents an infection by a variety of bacteria, as either single or multiple infections resulting from the effect of the virus on the lungs, thereby sensitizing them, or by the general systemic shocklike effect of a severe influenza.

The clinical manifestations of the disease are variable. During pandemics all variations present themselves in individual cases. Subsequent outbreaks have, on the whole, been mild in comparison to the severity of the disease and the number and frequency of complications in the 1918 version. These variations include subclinical infection with few or no symptoms as well as the most violent and rapidly progressing pneumonia.

3. Horsfall, F. L., Jr.: Present Status of Knowledge Concerning Influenza, *Am. J. Pub. Health* 30: 1302 (Nov.) 1940.

4. Chapman, Jeannette, and Hyde, R. R.: Antigenic Differences in Viruses from Cases of Influenza and Colds, *Am. J. Hyg. (section B)* 31: 46 (Jan.) 1940.

5. Magill, T. P., and Francis, Thomas, Jr.: A Flocculation Phenomenon with Human Sera and Suspensions of the Virus of Epidemic Influenza, *Proc. Soc. Exper. Biol. & Med.* 39: 81 (Oct.) 1938.

6. Shope, R. E.: The Influenzas of Swine and Man, *Medicine* 15: 453 (Dec.) 1936.

7. Magill, T. P., and Francis, Thomas, Jr.: Antigenic Differences in Strains of Epidemic Influenza Viruses, *Brit. J. Exper. Path.* 19: 273 (Oct.) 1938.

8. Reimann, H. A.: Infectious Diseases: A Review of the Current Literature, *Arch. Int. Med.* 62: 306 (Aug.) 1938.

The incubation period is about two days. The onset of the disease is sudden and the first symptoms are usually constitutional. Chilly sensations, general aching pains and headache with the rapid appearance of fever are characteristic. Respiratory symptoms appear later, usually a short cough, sore throat, coryza and epistaxis. A tracheobronchitis usually dominates the picture. The patient is drowsy, and the face shows a peculiar livid cyanosis. Conjunctivitis is common. The pharyngitis is characteristic with definite redness of the posterior wall and soft palate, while the hard palate is strikingly pallid. The manifestations in the chest are variable from complete absence of abnormalities to a "wet" pneumonia with rapid pleural effusion and frothy bloody sputum. The intermediate changes are those of a coarse bronchitis or bronchiolitis. The latter is characteristic. During the epidemic of 1918 relative bradycardia was common. Leukopenia was the rule until secondary infection made its appearance. (Even then it often persisted.) Convalescence was prolonged and mental and physical depression striking even in milder cases. The mortality was very high in pregnant women, and abortion was the rule. These features have not been consistent in the recurrent waves of the disease.⁸ The duration of the disease was variable according to its severity. The average patient who recovered had an active stage of seven to ten days, with slow convalescence. At the present time the average duration is less (three or four days) with relatively rapid convalescence.

While it is not possible to make an arbitrary diagnosis without virus studies, the clinical appearance is often sufficiently characteristic so that the diagnosis is not much in doubt. The sporadic case or cases occurring in limited epidemics present greater difficulties, as the observations of Reimann and others indicate.

THERAPY

Prophylactic.—Influenza is a highly contagious disease during periods of severe epidemics. Either immunity is lost after a period or new strains are responsible for the high incidence and apparent lack of immunity. The disease gains entry into the body through the respiratory tract. It is transferred from one infected person to another by direct contact or by discharges from the nose and throat. Droplet infection² results from discharge of small particles from the mouth, nose and throat as the result of sneezing, coughing or even talking. Such small particles may remain suspended in the atmosphere in either the moist or the dried state, with a capacity for transference of infection. It can readily be understood how and why the disease can be rapidly and widely disseminated under the crowded conditions of barrack life. The same applies to contacts in schools, churches, movies and all other gatherings of people. Let the healthy protect themselves from the sick and the sick shun those not afflicted. Robertson, Biggs, Miller and Baker of the University of Chicago have just announced a method of sterilizing the air by a propylene glycol mist which may be applicable to the prevention of influenza. It would seem that this method could be put to practical use in the present wave of influenza.

Natural immunity or acquired active immunity is thought to exist in some persons. It has not been possible to predict with certainty whether or not the degree of immunity is sufficient to give complete protection. Neutralization of a known virus by the serum of a

convalescent person is presumptive evidence.⁹ The secretions of the nose seem to have some inhibiting effect on the growth of the virus.⁸

A number of virus preparations have been employed in an attempt to produce active immunity. None have been entirely successful, unless the new vaccine of Horsfall and Lenette¹⁰ can be so regarded. The discovery of this procedure seems to have been accidental. A vaccine prepared from ferrets, in which ferret distemper occurred simultaneously with experimental infection by human influenza, was injected into animals to immunize them. These animals were found to be immune to three antigenically different strains of human influenza. Subsequently it was found that animals inoculated with a mixture of canine distemper virus and human influenza virus produced a vaccine which would immunize animals to massive doses of all the strains of influenza virus available. The vaccines thus produced have been tested on human beings. The serum of volunteers thus immunized has been found to show a decided increase in the virus antibodies against all strains of influenza virus obtainable. These experiments indicate a probable highly effective method for the prevention of influenza which may be available for general use when the investigative work has been completed.

Unfortunately, the contagious period is probably during the stage of invasion before the presence of illness becomes well defined. At any rate, the patient should be isolated and visitors excluded. The room should be relatively bare, with no more furniture than is required. In past epidemics the disease has been transmitted particularly to the attendants. The morbidity among physicians and nurses has been high. Because of this, it has been customary for attendants to wear masks over the nose and mouth whenever contact with the patient is made. Although this may reduce the liability of infection, it is not a certain means of escape. In fact, only the complete isolation of the case has been entirely successful. Contamination of hands and dishes are other means of transmission. The measures to be employed are obvious. Dishes should be sterilized by boiling, and soap and water used liberally on the hands after contact. Discharges from the nose and sputum should be collected in tissues and disposed of in the usual paper bag attached to the bedside. These should be collected frequently and destroyed by burning. The safe period of quarantine is variable and probably should be continued until all discharges have ceased. Vaccination of physicians, nurses and attendants may shortly be possible. Methods now in use to prevent the common cold may protect against influenza (pooled cold vaccines by hypodermic or by mouth protect to a certain degree).

Active.—Much of the treatment depends on the facts discussed. The individual severity as well as the general intensity of the epidemic will determine the program. While recurrent waves since 1920 have been mild, it is reasonable to believe that subsequent epidemics will again increase in severity.

Since influenza is largely a self-limited disease, the treatment of the average patient without complications is symptomatic. The patient should be put to bed and kept there. Bed rest should be enforced until three to

9. Stokes, Joseph; Chenoweth, Alice D.; Waltz, A. D.; Gladen, R. G., and Shaw, Dorothy: Results of Immunization by Means of Active Virus of Human Influenza, *J. Clin. Investigation* 16: 237 (March) 1937.

10. Horsfall, F. L., Jr., and Lenette, E. H.: A Complex Vaccine Effective Against Different Strains of Influenza Virus, *Science* 91: 422 (May 24) 1940.

five days after all fever has disappeared if no complications have arisen. If these procedures are rigidly maintained, the possibility of complications is unlikely. The exceptions are those attacks of increased virulence such as were seen in the last pandemic. The patient should not be allowed to leave his bed under any circumstances. Bed pans and urinals should be used. Changes of clothing and bed linen should be accomplished without removing the patient from the bed. The bed covering should be light and of sufficient warmth to keep the patient comfortable. Approximately 68 F. is the optimum room temperature, neither too warm nor too cool. Sudden changes in room temperature or too cool an environment result in increased tracheal irritation and excessive coughing. The habit of placing patients out "in the open," on "side porches" or in open "sun parlors" is to be condemned.

The patient with a severe attack of influenza is apprehensive. In the stage of convalescence he is depressed mentally and physically out of proportion to the severity of his illness. He should be reassured as to his condition, and his surroundings should be made as cheerful as possible. Mental tranquillity is more important than in other acute illnesses. Tepid sponges for high fever (102-104 F.) followed by warm alcohol rubs and light massage help achieve both physical comfort and mental relaxation.

The fluid intake should be adequate and may consist of water, sweetened fruit juices and palatable carbonated beverages. The patient frequently is nauseated, and this together with drowsiness may interfere with the intake of both food and fluid. If not possible to achieve an intake of 3,000 to 4,000 cc. by mouth, the balance may be made up by parenteral administration of physiologic solution of sodium chloride or 5 per cent dextrose in physiologic solution of sodium chloride. If a real effort is made, the needed amount can usually be given by mouth.

The diet can be left partly to the desires of the patient. Solid food is distasteful, and the chances of overindulgence are negligible. Because of the relatively short duration of the disease, a bland, relatively high carbohydrate diet is satisfactory. If the patient refuses food, the caloric intake may be increased in liquid form with fruit juices, sugar, milk, eggnog, lactose and the like. It is desirable to maintain the nutrition of the patient by an adequate food intake. Convalescent weakness may thus be minimized. Flatulence may be avoided by judicious use of fruit juices and well cooked vegetables and fruits. At times adding solids and reducing the liquid intake will control such flatulence. Any of the mild laxatives may be necessary. No advantage is gained by repeated catharsis. It is to be condemned. A glycerin suppository may suffice, or a small saline enema.

Throat irritation and soreness can be controlled to some extent by mild alkaline gargles. Isotonic solutions of sodium chloride or sodium bicarbonate are highly satisfactory when used warm. Compound solution of sodium borate is still very useful, and but little improvement can be made on it. Nasal obstruction is often of such severity that it becomes a distressing symptom which requires relief. This can often be accomplished by the use of 2 per cent ephedrine sulfate in physiologic solution of sodium chloride. Amphetamine inhalers used with caution give much relief. Inhalations of steam are grateful not only for nasal irritation but for the distressing cough which accompanies acute tracheitis. A humidifier is serviceable also

in such conditions. A few drops of 10 per cent menthol in alcohol added frequently to the water can be used. Ice collars, oily sprays and nose drops (such as liquid petrolatum) are to be used with care.

The headache and general aching pains are relieved by acetylsalicylic acid or acetophenetidin. Ten grains (0.6 Gm.) of the former or 5 grains (0.3 Gm.) of each every four hours is effective. If codeine sulfate or phosphate in $\frac{1}{4}$ to $\frac{1}{2}$ grain (0.015 to 0.030 Gm.) doses is added, not only is the analgesic effect increased but the irritative tracheal cough is well controlled. Restlessness and insomnia are usually the result of discomfort. In the case of extreme discomfort and restlessness, morphine early in small doses is often necessary to secure adequate rest. The importance of rest cannot be overestimated. Barbituric acid drugs in the form of phenobarbital, $\frac{1}{2}$ to $1\frac{1}{2}$ grains (0.03 to 0.10 Gm.) in average dosage are usually adequate.¹¹ In some cases better results are achieved by smaller doses ($\frac{1}{2}$ grain) repeated three or four times a day.

The results of chemotherapy with the sulfonamide group of drugs in the treatment of influenza have not been established. The cases in which this type of treatment has been used are those relatively mild ones which have occurred in more localized waves of the disease in the past two years. Since these are of short duration and recovery is prompt under any conditions, adequate evaluation has not been possible as far as the virus phase of the disease is concerned. The leukopenia of severe influenza might be considered a theoretical contraindication. Should a complicating secondary infection develop, the use of such drugs will depend on the type of organism present and the nature and severity of the infection. It seems reasonable to feel that failure of the fever to subside in two to three days, except in cases of very severe involvement, may be an indication for the use of a sulfonamide combined with type-specific serum if a specific type of pneumococcus is isolated. Sulfanilamide is probably the drug of choice in streptococcal infections. For the various types of pneumococcus and for *Haemophilus influenzae*, sulfapyridine or sulfathiazole should be used. Recent reports of successful management of meningitis due to *Haemophilus influenzae* infection are encouraging.¹² Perhaps sulfathiazole will have the widest field of usefulness under the circumstances. The present wave of the disease should provide an opportunity for the evaluation of these drugs and of their effectiveness. It is unnecessary to emphasize the need for caution. It would seem unwise to administer any of these compounds in the average case of mild involvement, especially if the patient is treated in the home, unless adequate precautions are taken to avoid the serious toxic effects which may appear (granulocytopenia, anemia, purpura).¹³

No specific measures for the control of the disease have been discovered. The use of convalescent serum has been described a number of times. It was employed by McGuire and Redden¹⁴ in the pandemic of 1918. Five hundred cc. of blood from ten day convalescent patients is obtained under strictly sterile technic, incu-

11. Aminopyrine should be avoided with barbitals.

12. Hamilton, T. R., and Neff, F. C.: *Influenzal Meningitis with Bacteremia Treated with Sulfapyridine*, J. A. M. A. **112**: 1123 (Sept. 16) 1939. Noone, E. L., and Kennedy, P. J.: *Influenzal Meningitis: Report of Two Cases with Recovery; One Case Complicated by Paroxysmal Tachycardia*, *ibid.* **115**: 2060 (Dec. 14) 1940.

13. If the differential blood smear shows a goodly proportion of granulocytes, sulfathiazole is not contraindicated.

14. McGuire, L. W., and Redden, W. R.: *Treatment of Influenzal Pneumonia by the Use of Convalescent Human Serum*, J. A. M. A. **71**: 1311 (Oct. 19) 1918; **72**: 709 (March 8) 1919.

bated for one hour, cooled in a refrigerator for twelve hours, and the serum removed by slowly decanting or by centrifuging; it is used in dose of approximately 120 cc. More recent work on the immunology of the disease shows that specific antibodies tend to disappear from the blood of convalescents rather rapidly,³ so that after a year they have effectively disappeared. In the event of the occurrence of a severe epidemic or of sporadic cases of severe pneumonia, pooled convalescent serum should be, and no doubt will be, extensively employed. Although no definite results can be predicted, it seems reasonable to believe that good results, when adequate amounts of serum are used, may be expected.

The more effective methods for the administration of oxygen developed in the last decade have resulted in a wide application of this form of therapy. Instead of being confined as a gesture to the terminal stage of the disease, it is now generally employed with great therapeutic effectiveness. This is true particularly of pulmonary and cardiac diseases. The need for oxygen in influenza will be recognized in each individual case as the necessity for it arises. Indications are no different than in other varieties of pneumonia. Increasing toxemia, cyanosis, dyspnea and restlessness and apprehension are symptoms which suggest its use. Early employment in cases of very severe involvement may be of great value in carrying the patient through until natural immunity develops or until improvement by means of serum or chemotherapy can be obtained. The cyanosis and dyspnea produced by a rapidly developing pleural effusion of serohemorrhagic, hemorrhagic or even seropurulent character must not be treated by oxygen to the disregard of the relief of the effusion. Early aspiration is indicated, and repeated aspiration may be necessary.

The complications of epidemic influenza are many. Pneumonia is usually regarded as part of the disease pattern rather than as a complication. This appeared to be the situation in the pandemic of 1918 and in early recurrent waves. Since then, in the milder epidemic appearances, pneumonitis has not been a striking or a frequent finding; rather the exception. The character of such pulmonary involvement was a liquid hemorrhagic pneumonia. The rapid progress, severe cyanosis and early fatal termination in such cases was striking evidence of the virulence of the infective agent and the extent of pulmonary involvement. The conditions found on physical examination varied from those of bronchiolitis with localized patches of fine rales to extensive consolidation and profuse moist rales (confluent bronchopneumonia).

In the event of the appearance of these manifestations, a special effort should be made to determine the type of secondary infecting agent. If it should prove to be of the pneumococcus group, further efforts to differentiate a specific type should be made and adequate chemotherapy instituted at once. If the hemolytic streptococcus is found, sulfanilamide is the drug of choice although sulfathiazole may later prove to be more effective.

Pleurisy was exceedingly common in the last great epidemic. If it manifests itself merely as pleuritic pain, the application of local heat and strapping of the chest with adhesive tape or with one of the elastic chest bandages, or even a plaster of paris support, are usually sufficient. Sometimes morphine is indicated early in the course of the disease. Pleural exudates appear with

extraordinary rapidity. It was not uncommon to find massive exudates developing over night.

These exudates were a common cause of death and early overlooked. This was at times because intense bronchial breathing could be heard over such an area, and the exudate was mistaken for consolidation. Aspiration of the contents of the pleural cavity under such conditions may be a life saving measure. Even the suspicion of the presence of fluid in the chest is an indication for a diagnostic tap. Physical examination of the chest should be repeated at least twice a day; even under such careful observation exudates may be overlooked: "bronchial breathing and no rales → Aspirate at once."

Such exudates were often serous or serohemorrhagic, sometimes seropurulent. It was common for an exudate to begin as a serous type and later become purulent. Treatment of the condition as one of empyema became necessary. The closed method, without rib resection, was found to be effective. Difficulty was encountered because of the frequency with which intralobar empyema occurred. The diagnosis is difficult. Roentgen examination is usually necessary for confirmation. In any case in which complete recovery does not occur in the expected length of time, and in which no adequate explanation for continued illness can be found, such an exudate must be immediately considered.

The most startling complication encountered in 1918 in this disease was the sudden appearance of subcutaneous emphysema at the base of the neck extending down over the chest. It is the result of bronchial or peripheral alveolar rupture into the mediastinum or peripleural space. Sometimes the emphysema was limited to the mediastinum, in which case peculiar crackling sounds could be heard with each heart beat. Sometimes it extended up into the neck as well as over the chest or, in extreme cases, over the entire body except for the soles of the feet and palms of the hands. Spontaneous pneumothorax occurred often. These phenomena are the result of an interstitial emphysema occurring within the alveolar structure with rupture of a peripheral alveolus. Cough must be controlled when this occurs, because with each paroxysm air is forced out of the lungs. Other measures are seldom necessary, but release of air by insertion of a large needle into the pleural cavity may be required.

Conjunctivitis, while often quite severe, usually does not require specific treatment. Warm or cold moist boric acid compresses applied over the eyes give symptomatic relief. The appearance of otitis media may be regarded as an indication for the use of one of the sulfonamide group of drugs in addition to the usual measures employed in the treatment of this condition. The same may be said of acute sinusitis, a rather common complication.

Because convalescence is apt to be slow, allowance is made for at least a two week period in cases of severe involvement. During this time a continued rest program with gradual increase in motor activity is important (graduated exercise—walking on the level → walking on graduated slope, cool baths and so on).

Fatigue is a striking complaint during convalescence and quite characteristic. It is often associated with mental depression. Apparently with fatigue there is an associated loss of resistance to secondary infection, and complications are likely to occur. In 1918 many of the most virulent attacks of pneumonia developed after apparent recovery and convalescence. Avoidance of exposure to cold and chilling of the body surface is

equally important. Apparently all the factors which may be responsible for the development of the common cold are also factors in the recurrence of influenza. Of these fatigue is the most important, and fatigue in convalescence develops very quickly.

One of the most unfortunate late complications of pandemic influenza has been epidemic encephalitis or encephalomyelitis. The clinical picture resulting is that of the familiar Parkinson state. For this reason one is tempted to suggest that maximum doses of the vitamin B group may well be indicated accompanied by the use of thiamine hydrochloride 15 mg. a day by hypodermic and the vitamin B complex containing perhaps 5 mg. of riboflavin and from 150 to 300 mg. of nicotinic acid. At the present time one should not be too constrained to scoff at a possible relationship of a vitamin E deficiency, and it would bear trial to give a patient in this condition early a minimum if not a maximum dose of the concentrate of vitamin E (ephynal). It is possible that in this field may be found a prophylactic for the well known muscular weakness both peripheral and central (cardiac) which so often complicates or is a sequela to its effects.

PRESCRIPTIONS

Laxatives: Liquid petrolatum 4 drachms (15 cc.) at night, fluidextract or aromatic fluidextract of cascara sagrada 1 or 2 drachms (4 to 8 cc.) in the early morning, heavy magnesium oxide 20 grains (1.3 Gm.) at night, glycerin suppository in morning, saline enema.

Flatulence: Bland diet, well cooked low starch vegetables and fruits; avoid excess of total liquid, substitute solid food relatively early. Heat to the abdomen, regular bowel habit. Tincture of belladonna 7 to 10 minims (0.4 to 0.6 cc.) three to four times daily. Substitute hot fluids for cold.

Gargles: Alkaline aromatic solution. Warm physiologic solution of sodium chloride. Physiologic solution of sodium chloride with sodium bicarbonate roughly 2 drachms (8 cc.) of sodium chloride and 1 drachm of sodium bicarbonate to 1,000 cc. Sodium bicarbonate 1.2 Gm. in 120 cc. of antiseptic solution N. F. used half strength. Sodium bicarbonate and sodium baborate 1.2 Gm. of each in cinnamon water to make 120 cc.

Additions to steam vapors: Spirit of menthol (10 per cent menthol in alcohol) from 15 to 30 drops in boiling water frequently as inhalant. Compound tincture of benzoin 1 drachm to 1 pint of boiling water every hour.

Sedatives: Powder of ipecac and opium 0.65 Gm. (10 grains) taken with hot lemonade for diaphoresis and sedation.

General aching; joint pains: Acetylsalicylic acid 0.3 Gm. (5 grains), acetophenetidin 0.3 Gm. (5 grains); mix and put in capsules, one to be given every six hours. Or mix and make a total dose of acetylsalicylic acid 0.24 Gm. (4 grains), codeine sulfate 0.015 Gm. ($\frac{1}{4}$ grain), citrated caffeine 0.03 Gm. ($\frac{1}{2}$ grain), phenobarbital 0.015 Gm. ($\frac{1}{4}$ grain). Acetylsalicylic acid compound, one every four hours.

Stimulating cough mixtures:

1. Ammonium carbonate 5 Gm., anise water 12 cc., syrup of acacia to make 60 cc.; 4 cc. (1 drachm) every two hours.

2. Ammonium chloride 5 Gm. (1 drachm), syrup of ipecac 15 cc. (4 drachms), syrup of glycyrrhiza to make 60 cc. (2 ounces); teaspoon in water every two hours.

3. Ammonium chloride 10 Gm. (2 drachms), syrup of cherry (Dr. Fantus has already called attention to the wisdom of using syrup of cherry rather than the syrup of wild cherry) to make 120 cc. (4 ounces); teaspoon in cup of water every two hours.

4. Syrup of hydriodic acid 15 cc. (3 drachms), syrup of cherry to make 60 cc. (2 ounces); two teaspoons in cup of water every four hours.

Sedative cough mixtures:

1. Codeine sulfate 0.25 Gm., syrup of cherry to make 60 cc.; teaspoon in water every three hours.

2. Codeine sulfate 0.5 Gm., syrup of tolu balsam 60 cc., syrup of wild cherry to make 120 cc.; one teaspoon in water every three to four hours.

3. Codeine phosphate or sulfate directly in $\frac{1}{4}$ to $\frac{1}{2}$ grain dose (0.015 or 0.030 Gm.).

4. Elixir of terpin hydrate with codeine, one teaspoon every two to three hours for severe cough.

5. Codeine phosphate 0.5 Gm., aromatic syrup of eriodictyon to make 60 cc.; 4 cc. (1 drachm) in water every two to four hours.

A capsule prepared of papaverine hydrochloride 0.016 Gm. ($\frac{1}{4}$ grain) and codeine phosphate 0.016 Gm. ($\frac{1}{4}$ grain) has been used in the treatment of the common cold. It should be useful in the early stages of exudative influenza.

Council on Physical Therapy

THE COUNCIL ON PHYSICAL THERAPY HAS AUTHORIZED PUBLICATION OF THE FOLLOWING REPORTS.

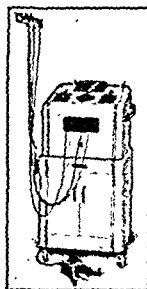
HOWARD A. CARTER, Secretary.

INTERMEDIATE BOVIE ELECTRO-SURGICAL UNIT ACCEPTABLE

Manufacturer: The Liebel-Flarsheim Company, 303 West Third Street, Cincinnati.

The Intermediate Bovie Electro-Surgical Unit is said by the manufacturer to be essentially the same as the Council accepted Universal Bovie except for a difference in the construction of the cabinet. The cutting and coagulation currents of the two units are said to be similar in power and characteristics; the

power output controls have been placed in a different position on the Intermediate and are of a slightly different type.



Intermediate Bovie Electro-Surgical Unit.

The apparatus is of a semiportable type, the unit proper being encased in a steel cabinet which is mounted on a subcabinet (optional) also of steel construction. The unit proper weighs 70 pounds and is 16 inches high by 15 inches deep; when mounted on the subcabinet it is 41½ inches high. The subcabinet provides storage space for the accessories.

The control panel is located on top of the apparatus and this position is said to be easily accessible to the operator, who may stand in front of, behind or on either side of the unit.

In the Council's clinical investigation of the apparatus it was found to give efficient service in all operative procedures. The control of intensity in cutting desiccation is satisfactory, and hemorrhage control was efficient when the proper loop electrodes were used in underwater cutting.

The Council voted to accept the Intermediate Bovie Electro-Surgical Unit for inclusion on the Council's list of accepted devices.

HOMOZONE

(Ozone Generator)

NOT ACCEPTABLE

Manufacturer: The Automatic Electric Devices Company, 324 East Third Street, Cincinnati.

Because of many inquiries coming to the Council for information on the Homozone apparatus, the Council regarded the preparation of a report advisable. This report is based on an examination of the advertising for Homozone.

"Nature's Own Health-Restoring and Air Purifying Agent . . . Now . . . Man Made and Controlled!" is the manner in which the Homozone is described in the advertising literature. The copy makes it very clear that the advertiser considers the apparatus necessary to an individual's well-being, as indicated in the following: "Without it (oxygen), we would die within a few minutes. Contaminate our supply of Oxygen, with smoke or foul, disease laden impurities . . . and headaches develop . . . we become easily fatigued . . . our resistance to disease is decreased, and if continued, our Health

is eventually endangered. Ordinary OXYGEN (O_2) consists of two atoms of oxygen to the molecule . . . OZONE (O_3) contains ONE additional atom of Oxygen or THREE atoms of OXYGEN altogether. No chemical, vapor, nor anything else is added . . . it's just 3 atoms of Nature's own pure Oxygen combined together, instead of but 2 atoms as Oxygen exists in its usual state."

In presenting evidence to the public as to the usefulness of the device it is stated: "So while some might question the efficacy of ozone, it should be remembered that even experts have been and still can be wrong. And as the old saying, 'the proof of the pudding lies in the eating thereof,' the practical value of ozone is best proven by what it has done for others—a story which we feel can be better written by its actual users." Then are listed ". . . a few of the many letters which we have received from Homozone users." These letters of recommendation include one from a man in Detroit who purchased a Homozone and states he cured his wife's tuberculosis and sinus condition when physicians had done nothing to help her; a professor in a barber college finds that his students have had no headaches or colds since the installation of the device; a man who had been deafened in one ear by a severe cold found that in a few days his hearing was restored by the use of the Homozone. There are also included many other letters from persons who state that the use of the Homozone relieved or cured their bronchitis, colds and sinus conditions.

The Council has on several occasions in the past declared certain ozone generators to be not acceptable for inclusion on its list of accepted devices. This action has been taken because of the manner in which the devices were promoted and because, contrary to aiding well-being, exposure to ozone may result in irritation of the mucous membranes of the nose, throat and lungs, headaches, drowsiness, fatigue and a burning sensation in the eyes. The firm's evidence presented in the form of testimonial letters is not regarded as critical and, in the opinion of the Council, does not substantiate the claims made by the manufacturer that the Homozone is useful for "General Health Building," "Respiratory Ailments," and that it is ". . . a most valuable aid in the relief of many and diversified ailments." Recent investigations have confirmed earlier observations that for ozone to be even slightly effective as a bactericidal agent it must be present in such concentrations as are distinctly harmful to the delicate membranes of the nose, throat and lungs of a human being.¹ Regardless of where or how it is generated, ozone has little effect on bacteria except in strong concentrations which are harmful to the human being as well.

A section of an advertising booklet describes the "Hom-Ozone-Izer, Electro-Chemical Vaporizer," an accessory used with the Homozone for the purpose of dispensing a medicament as vapor. This medicament is called "Mist-O-Zone" said to "contain several proven medicaments of the Gymnospermae and Pinales groups." In presenting evidence for the usefulness of the device, it is stated, "For as pointed out in Vol. 90, No. 15, April 14, 1928 issue, (pages 1197-1198) of the Official Journal of the American Medical Association, and as attested to by many prominent physicians, investigators, clinics, institutions, etc., therein apparently marked relief and assistance was obtained through inhalations of ozone combined with certain products of the Pinales group, which form, in combination with ozone, an entirely new and different compound, easily inhaled, soothing, cooling, and above all, beneficial, as the statements therein definitely indicate." THE JOURNAL report referred to was a report by the Council on Pharmacy and Chemistry on a similar device which was found to be unacceptable to that Council. The report was highly unfavorable and by no means endorsed the foregoing advertising statements. The reference as it is used by the firm in its advertising is misleading because it indicates a favorable report.

In addition to the health claims made for the Homozone unit it is also claimed that it is effective as a deodorizer. The firm states: "The Homozone Actually DESTROYS Odors, . . . It Does Not Merely MASK Them!" The Council has, in earlier reports, expressed the opinion that

ozone is ineffective as a deodorant—that it merely masks the original odor with a substitute odor. As an oxidizer for fumes, odors or gases, ozone has been found to be ineffective.² Ozone tends to fatigue the sensory nerve endings which govern the sense of smell so that an individual can no longer smell the odors.

The firm reproduces in the advertising many letters from funeral parlors, theaters, chicken hatcheries, animal hospitals and kennels, which state that the Homozone has been useful as a deodorizing agent. The Council does not regard this as critical evidence to substantiate the firm's claim that the device destroys odors.

The Council voted to declare the Homozone unacceptable for inclusion on its list of accepted devices because of the objectionable advertising used in promoting the device to the public, and because the claims made by the manufacturer are unsubstantiated by critical evidence.

Council on Pharmacy and Chemistry

BACTERIOPHAGE THERAPY: II.

IN 1934 THERE WAS PUBLISHED IN THE JOURNAL UNDER THE AUSPICES OF THE COUNCIL A SERIES OF ARTICLES ON THE STATUS OF BACTERIOPHAGE THERAPY, BY DRs. EATON AND BAYNE-JONES. RECENTLY THE COUNCIL FELT THAT SUBSEQUENT DEVELOPMENTS IN THIS FIELD MIGHT WARRANT A RESTUDY OF THIS SUBJECT. DR. A. P. KRUEGER, PROFESSOR OF BACTERIOLOGY AT THE UNIVERSITY OF CALIFORNIA, AND HIS COLLEAGUE, DR. E. JANE SCRIBNER, KINDLY AGREED TO MAKE THE NECESSARY STUDY AND TO WRITE A REPORT. THEIR REPORT, WHICH FOLLOWS, HAS BEEN ADOPTED BY THE COUNCIL AND AUTHORIZED FOR PUBLICATION. IN AUTHORIZING THE PUBLICATION, THE COUNCIL EXPRESSES ITS GRATITUDE TO DRs. KRUEGER AND SCRIBNER FOR THEIR EXCELLENT STATUS REPORT.

OFFICE OF THE COUNCIL.

THE BACTERIOPHAGE

ITS NATURE AND ITS THERAPEUTIC USE

ALBERT PAUL KRUEGER, M.D.

AND

E. JANE SCRIBNER, PH.D.

BERKELEY, CALIF.

(Concluded from page 2167)

3. CLINICAL EVIDENCE REGARDING USEFULNESS OF PHAGE IN TREATING INFECTIOUS DISEASES

In concluding their extensive and critical review of the earlier literature on the phage treatment of human infections, Eaton and Bayne-Jones¹ stated that in their judgment the evidence for the therapeutic value of phage was largely contradictory. They granted the existence of convincing data in only two fields, namely the treatment of localized staphylococcal infections and cystitis. Since 1934 many more clinical reports have accumulated and we have attempted to summarize in the following section the relevant facts pro and con gleaned from these recent publications.

The evaluation of practically any therapeutic modality is admittedly difficult, and an analysis of the clinical application of phage presents no exception to the general rule. Many of the papers are based on inadequate clinical series or are frankly polemical. Even when these objections are met it is no easy matter to arrive at a fair picture of the effectiveness of phage therapy, for few diseases have the uniformity of duration, severity and mortality conducive to the attainment of statistically valid conclusions. One is left to wonder what the patient's progress would have been if no treatment, or some entirely different treatment, had been instituted. In other words, for reasons apparent to any one who has practiced medicine, strictly scientific control groups are hard to obtain and most studies are free from their

1. Kendall, A. I., and Walker, A. W.: Effects of Ozone on Certain Bacteria, J. Infect. Dis. 58: 204 (March-April) 1936.

2. Ozone in Ventilation, Pub. Health Rep. 35: 989 (April 23) 1920.

salutary influence. This is not peculiar to phage investigations, of course, but it is of such common occurrence among them that it is hard to find in the majority of accounts anything more than the authors' opinions of results accomplished with phage as compared to the results which their experience has accustomed them to expect when other measures are employed. Usually the art of medicine is exercised in the choice of therapy particularly suited to the case in hand and the task confronting the reviewer of phage literature is to weigh the evidence establishing the position of phage in the practitioner's armamentarium; is it a method of choice, one of occasional application or should it be omitted altogether? These are the essential questions, and their answers should reflect not only the data laboratory experience affords but, more decisive still, the all important consideration "Does it work clinically?"

1. *Enteric Diseases.*—These diseases comprise one of the most favorable groups for evaluation of phage therapy. In some of them (dysentery and cholera) the organisms are restricted to the bowel and do not invade the blood stream or other tissues of the body. Since the bowel contents normally contain some sort of phage, and since they can at times support active growth of pathogenic organisms, one may assume that there exist here relatively propitious circumstances for phage production, provided the appropriate phage is introduced. As has been pointed out in section 2, this applies only to the intestinal lumen, for in the deeper tissues there is little likelihood of extensive phage formation taking place. Another limiting factor is the difficulty encountered in getting phage past the inactivating effects of the gastric juice and bile.⁵⁹ Both secretions can take a heavy toll of phage activity, although in practice the administration of phage on an empty stomach, after preliminary alkalization with sodium bicarbonate, seems to assist its passage in the active form. For the same reason some workers (Seidlmayer,⁶⁰ Vaill and Morton⁶¹ and others) give phage retention enemas daily.

The natural occurrence of antidysentery phage in the stools at times during the course of bacillary dysentery has been recommended as a diagnostic aid. During the outbreak of institutional dysentery due to the Hiss-Y strain Feemster⁶² was able to isolate the causal organism from 23 per cent of patients in the first week of illness and from 13 per cent in the second week. The homologous phage was found in 33 per cent of cases in the first week, 80 per cent in the second and 45 per cent in the third. A further test of this diagnostic aid was conducted by Mackie⁶³ in connection with a group of patients presenting the clinical picture of chronic bacillary dysentery. In only 29 per cent could he detect a phage active against the dysentery bacillus, while 13 per cent of a noninfected control group gave positive tests for such a phage. He concludes that the presence of dysentery phage in chronic intestinal infections has little diagnostic significance and that the term "diagnostic bacteriophage" is a misnomer.

At the time of the Eaton-Bayne-Jones survey the results obtained in the phage treatment of bacillary dysentery were highly controversial. Numerous enthusi-

astic accounts were quoted but few of them could be accepted as offering conclusive evidence in favor of phage therapy. In a small number of well controlled series no difference in the course of the disease or in the mortality between treated and control groups was observed. The same situation obtains today. Some authors, e. g. Compton⁶⁴ and Murray,⁶⁵ recommend phage therapy without reservation and feel that 90 per cent of patients with bacillary dysentery benefit from it. Others have used it with good success in prophylaxis against dysentery. For example, Melnik, Nikhinson and Khastovitch⁶⁶ report their experience with three large groups of children. Group 1 received 1 cc. of dysentery phage at ten day intervals for seven doses, group 2 the identical amount of phage plus ox bile and group 3 nothing at all. The dysentery morbidity rates subsequently observed were group 1, 1.44 per hundred; group 2, 0.15, and group 3, 6.38. Haler⁶⁷ used phage to control an institutional dysentery epidemic due to infection with the Sonne type of bacillus. The data suggest that one patient served as the "shedder" of organisms and eleven other children received their infection from him. The twelve sick patients, twenty-one unaffected children and the institution staff members were given phage. Within two days one more child became ill; then the epidemic halted abruptly.

Careful observations of phage therapy in five patients infected with the Flexner type of dysentery bacillus were made by Vaill and Morton.⁶¹ They also obtained considerable data from a larger group of patients in a neighboring community for whom they supplied phage. In their judgment the early persistent administration of phage in large doses by mouth and by rectum is a useful procedure.

Seidlmayer⁶⁰ has had an interesting experience with the phage treatment of bacillary dysentery in children coming to a Munich pediatric clinic during the three year period 1936-1938. As far as was possible, alternate cases were selected for the treated and control groups. Most of the patients had Kruse-Sonne infections and those to whom phage was administered received from 8 to 12 cc. by mouth; the rectal route was employed only occasionally. For thirty-one phage-treated cases the average period elapsing before normal stools were obtained was nine days; among forty controls the corresponding figure was 19.1 days. The phage-treated patients were bacteria free in some 7.6 days, while the controls averaged 12.5 days. Phage treatment appeared to have no influence on the duration of the febrile period. Seidlmayer concludes that phage therapy is well worth while and that it should be used along with dietetic measures in treating bacillary dysentery. Mikeladze and his co-workers⁶⁸ observed the effects of orally administered phage on the course of bacillary dysentery. In a group of twenty-one patients 13 per cent had complications and there was a mortality of 4.8 per cent as compared with 56 per cent of complications and a 15.6 per cent mortality in a control group numbering sixty-three patients, all of whom received symptomatic treatment. These authors feel that the early use of phage in bacillary dysentery

59. Applebaum, Martha, and Patterson, M. B.: Effect of Bile on Bacteriophage Phenomenon, *J. Infect. Dis.* 58: 195-203 (March-April) 1936.

60. Seidlmayer, Hubert: Die Behandlung der Ruhr im Kindesalter mit Bakteriophagen, *Ztschr. f. Kinderh.* 60: 579-589, 1939.

61. Vaill, Sylvia, and Morton, Gladys L.: Bacteriophage Therapy of Bacillary Dysentery, *J. Lab. & Clin. Med.* 22: 594-600 (March) 1937.

62. Feemster, R. F.: Use of Bacteriophage in Diagnosis of Bacillary Dysentery, *J. Infect. Dis.* 55: 190-194 (Sept.-Oct.) 1934.

63. Mackie, T. T.: The Diagnostic Significance of Antidysentery Bacteriophage, *Am. J. Digest. Dis. & Nutrition* 3: 673-677 (Nov.) 1936.

64. Compton, A.: Bacteriophage in Bacillary Dysentery, *Lancet* 2: 918 (Oct. 15) 1938.

65. Murray, J. E.: Treatment of Bacillary Dysentery with Bacteriophage, *Practitioner* 141: 199-201 (Aug.) 1938.

66. Melnik, M. I.; Nikhinson, J. M., and Khastovitch, R. I.: Prevention of Dysentery by Means of Bacteriophage, *Ann. Bull. Metchnikov Inst.* 1: 89-96, 1935.

67. Haler, David: Use of Bacteriophage in Outbreak of Institutional Dysentery, *Brit. M. J.* 2: 698-700 (Oct. 1) 1938.

68. Mikeladze, C.; Memsadze, E.; Alexidze, N., and Assanichvili, T.: Sur le traitement de la fièvre typhoïde et des colétes aiguës par le lactériophage de d'Hérèlle, *Médecine (suppl.)* 17: 33-38 (June) 1936.

aborts the disease and that when it is used late one still can expect amelioration of symptoms and reduced mortality.

Even if the best of statistics are accepted, the long period of time elapsing before improvement is noted would indicate that actual lytic destruction of bacteria by phage plays no role in recovery from bacillary dysentery. If it did, one might reasonably expect prompt extinction of the incitant and an early restitutio ad integrum. As it is, an average of from nine to fifteen days is required to render the patients symptom free. This would coincide better with the time element involved in certain of the host immune reactions already considered (fig. 3).

Phage therapy in typhoid or paratyphoid fever has not been an unequivocal success. To quote the earlier experience as analyzed by Eaton and Bayne-Jones,¹ "This brief summary of some of the literature on the treatment of typhoid with bacteriophage indicates that this agent has, apparently, no striking effect on the course of the disease except perhaps on the production of reactions followed by temporary relief. Especially is this the case in patients treated by injection of the lytic agent." We have not found anything in the recent literature to suggest that this is an understatement of the case for phage. Peragallo and Scuti,⁶⁹ for example, noted that the appearance of antityphoid phage in the natural course of typhoid is most irregular and has no direct bearing on the patient's recovery. However, phage therapy in their hands usually lessened the duration of the illness and reduced the temperature. They gave 2 cc. amounts of phage intramuscularly and 10 cc. by mouth to seven patients and report that with two exceptions they showed general improvement when compared with four untreated controls. One of the patients to whom phage was given died, and another failed to respond objectively or subjectively. These data do not furnish a particularly weighty argument for the value of phage therapy especially when compared with some of the results reported following the use of typhoid vaccine. In the series of Gay and Chickering⁷⁰ fifty-three patients suffering from typhoid were given intravenous injections of a sensitized typhoid vaccine. Approximately one third of these patients experienced a precipitate fall of temperature and a striking remission of symptoms; to all intents and purposes the disease was aborted. Another third of the patients showed distinct improvement after each of several injections, but the benefits were not permanent; the rest remained completely unaffected by the treatment. The careful use of ordinary unsensitized typhoid vaccine will accomplish just as much (Fairley⁷¹). While individual case reports in some of the phage studies are very impressive, so are the records of many of the vaccine treated patients, and, in our opinion, the statistical evidence in the latter group is considerably better than that collected for phage therapy.

Much of the earlier activity in the field of phage therapy was stimulated by d'Herelle's report⁷² of the dramatic results obtained in the treatment and prophylaxis

of cholera. He stated that the simple administration of phage by mouth to patients who had the disease reduced the mortality from 62 per cent to 8 per cent, while the addition of phage to wells in cholera areas served effectively as a prophylactic measure and sufficed to terminate the epidemics. These therapeutic and prophylactic procedures are corollaries to d'Herelle's major thesis, namely that all natural recovery from disease is brought about either by the adaptation of ubiquitous phages to the pathogen in question or by the acquisition of an active phage from the external environment. In cholera the theory dictates that the convalescent patient already has effected the necessary adaptation and henceforth, under the primitive sanitary conditions obtaining in cholera areas, serves as a disseminator of the means of recovery.

There is reason to doubt that the major factor in the natural history of epidemics, cholera or other diseases, is the spontaneous appearance and spread of active phages in the population at risk. Both the previously summarized data on bacillary dysentery and numerous reports on cholera point in this direction, e. g. the work of Taylor, Greval and Thant.⁷³ These authors were able to recover anticholera phage only occasionally from the stools of cholera convalescents; they consider, therefore, that recovery is independent of phage action. Doorenbos⁷⁴ quotes some interesting figures on the reduction of the case mortality rates during epidemics in several areas. He concludes that the waning of an epidemic is contingent on at least two other factors besides distribution of phage; first, the gradual immunization of the population by natural vaccination and, second, the diminution in the virulence and toxogenicity of *Vibrio comma*. Morison and his co-workers⁷⁵ attach more importance to phage distribution. In Indian locations studied by them while epidemics were in progress it was observed that the usual drop in case mortality occurred in one zone where conditions promoted the natural spread of phage but not in another where existing circumstances were unfavorable to phage distribution. This may be termed suggestive evidence but is hardly more than that. As far as we have been able to determine, the literature to date contains no scientifically acceptable proof that the recovery of the individual or the decline of an epidemic is dependent on the appearance and distribution of an anticholera phage.

Morison⁷⁶ and his co-workers have conducted careful and extensive field studies in India on the prophylactic and therapeutic value of phage in cholera. Only an outline of their most significant experiments, supervised from the Pasteur Institute at Shillong, Assam, can be presented here. The Nowgong district of 3,898 square miles with a population of some 563,000 had been subject to regular epidemics of cholera. The triennial death rate from the disease for the period 1919 to 1929 was 39.2 per 10,000. In 1929, during an outbreak, phage was distributed and within twenty-four hours a decided change for the better in the course of the epidemic was noted. Subsequently dysentery-cholera phage was made available for all cases of diarrhea with the result that the area has been cholera

69. Peragallo, I., and Scuti, R.: Klinische Beobachtungen und experimentelle Untersuchungen über die bakterio-phagische Therapie des Typhus, *Deutsches Arch. f. klin. Med.* **179**: 286-291, 1936.

70. Gay, F. P., and Chickering, H. T.: Treatment of Typhoid Fever by Intravenous Injections of Polyvalent Sensitized Typhoid Vaccine Seditum, *Arch. Int. Med.* **17**: 303 (Feb.) 1916.

71. Fairley, K. D.: Preliminary Report on Treatment of Typhoid Fever with Intravenous Vaccines, *M. J. Australia* **2**: 428 (Nov. 12) 1921; Treatment of Typhoid Fever by Intravenous Vaccines, *ibid.* **2**: 291-302 (Sept. 22) 1923.

72. The d'Herelle Bacteriophage in the Treatment of Cholera, *Foreign Letters (Paris)*, *J. A. M. A.* **90**: 783-784 (March 10) 1928.

73. Taylor, J.; Greval, S. D. S., and Thant, U.: Bacteriophage in Bacillary Dysentery and Cholera, *Indian J. M. Research* **18**: 117-136 (July) 1930.

74. Doorenbos, W.: Le choléra; conceptions nouvelles sur les principes fondamentaux de l'épidémiologie et de la prophylaxie du choléra, *Rev. d'hyg.* **59**: 22-50 (Jan.) 1937.

75. Morison, J.; Rice, E. M., and Polchoridbury, R. K.: Bacteriophage in Treatment and Prevention of Cholera: Summary, *Indian J. M. Research* **21**: 855-857 (April) 1934.

76. Morison, J.: Bacteriophage in Cholera, *Tr. Roy. Soc. Trop. Med. & Hyg.* **28**: 563-570 (April) 1935.

free for five years (ten epidemic seasons) although severe cholera has developed in three adjacent districts. In one of these, the southern control district of Habiganj, phage was dispensed during 1932 while the surrounding territories were supplied with cholera vaccine. In September 1932 severe cholera flared up in the latter district but not in Habiganj. At a later date three small Habiganj village outbreaks appeared, all of which lasted a very short time.

These observations are certainly suggestive and warrant continuation of the prophylactic program despite objections based on less favorable results and on the notorious capriciousness of cholera. Raynal⁷⁷ has reviewed the Indian cholera experience and concludes that the prophylactic value of phage remains to be demonstrated. Omar⁷⁸ is not overenthusiastic about phage prophylaxis but believes that it has a tendency to reduce the case mortality rate.

The application of phage to the treatment of cholera has been undertaken on a large scale. Here again Morison and his colleagues⁷⁹ have accumulated data that cannot be lightly dismissed. Two extensive epidemics in the Assam Valley district of India were studied. In the first, 1,032 phage-treated patients had a mortality rate of 22.6 per cent as compared with a rate of 56.6 per cent among 2,411 controls. In the second, the corresponding figures were 21 per cent mortality for the phage-treated patients, 70 per cent for 958 untreated controls. In Morison's opinion the patients receiving phage were definitely less infective. He states that under ordinary circumstances 100 households of six persons each having one case per house can be expected to provide fifty-eight secondary cases. If phage is given in the primary cases, the secondary cases will be reduced to eighteen.

Pasricha and his co-workers⁸⁰ have conducted a careful experimental inquiry into the value of phage therapy. Of 1,369 cholera patients admitted to hospital during the year ending July 1935, 684 were given phage in addition to the usual hospital routine and 685 received the latter treatment alone. The two groups were made up of alternate admissions with no selection as to age, severity or other factors. Taken as a whole, the phage-treated patients, who were given 2.0 cc. of cholera phage every four hours, had a slightly lower gross mortality rate than the control patients, but the difference was not statistically significant. When the data are analyzed, a somewhat more encouraging picture is presented. Of 398 bacteriologically positive phage-treated patients, 85 per cent passed agglutinable organisms. The mortality in this selected group was only 8.3 per cent in contrast to a mortality rate of 20.6 per cent among 369 patients who passed agglutinable vibrios but received no phage. For some unknown reason the phage treatment of patients infected within inagglutinable strains of *Vibrio comma* gave unfavorable results. Of sixty-one such cases phage therapy was attended by a mortality rate of 8.2 per cent as compared with a figure of 4.7 per cent among seventy-four controls. The authors state that the phage-treated patients have less toxemia, are not as dehydrated, show a lower incidence of complications and shed vibrios for a shorter period than the untreated controls.

In the light of the data accruing from the work of Morison and his assistants under field conditions in the villages of Assam, and from the hospital observations of Pasricha and his collaborators, it is apparent that the use of anticholera phage prophylactically and therapeutically deserves further trial. Certainly the earlier negative results of Taylor, Greval and Thant,⁷³ Souchard⁸¹ and others should not be permitted to stand in the way of thoroughgoing clinical tests, and just as certainly the work should be carried out under the most rigorously controlled conditions.

2. Pyodermias, Bacteremias and Other Suppurative Conditions.—(a) *Pyodermias*: The treatment of the pyodermias constitutes one of the early extensions of phage theory to actual clinical practice, and the medical periodicals from 1921 up to the present time contain numerous accounts of the successes observed (Bruynoghe and Maisin,⁸² Gratia,⁸³ Gougerot and Peyre⁸⁴ and others). American authors as well as French have reported favorably on the use of phage in treating boils, general furunculosis and carbuncles. For example, Stout⁸⁵ summarizes the results in some 1,500 cases as follows:

- A. In simple boils, 85 per cent of successes.
- B. In generalized furunculosis, 75 per cent of successes.
- C. In chronic furunculosis, 60 per cent of successes.
- D. In carbuncles, irregular results.

Cipollaro and Sheplar⁸⁶ found phage therapy satisfactory in forty-eight (78 per cent) of sixty-two patients suffering from furunculosis and in all of five cases of carbuncles. Rice⁸⁷ has collected data on sixty-six patients with boils and carbuncles to whom phage was administered; excellent results followed in fifty-five (83 per cent). In connection with staphylococcus phage preparations released through the Michigan Department of Health for the treatment of furunculosis, Larkum⁸⁸ reports on a total of 208 cases. In 78 per cent no further lesions developed up to a minimum of six months after treatment was completed and definite recurrences were noted in 19 per cent, although more than half of them were classified as mild. The results of another series⁸⁹ reported by several physicians are given in table 1.

More recent work reveals the same trend. Freund⁹⁰ considers phage of great value in aborting furuncles of the external auditory canal when applied early enough. He states that 98 per cent of these lesions can be resolved by either topical application or hypodermic injection of phage. Lampert, Boyce and McFetridge⁹¹ conclude that a large factor in the efficacious

77. Raynal, J.: Rapport de mission aux Indes Anglaises relative à l'étude des bactériophages appliqués à la prévention du choléra (août-septembre 1933), Arch. Inst. Pasteur d'Indochine 6: 77-126 (April) 1935.
78. Omar, Wasfy: Bacteriophage in the Treatment and Prophylaxis of Cholera, J. Egypt. M. A. 21: 491-501 (Aug.) 1938.
79. Morison, Rice and Polchoridbury,⁷³ Morison.⁷⁹
80. Pasricha, C. L.; de Monte, A. J. H., and O'Flynn, E. G.: Bacteriophage in Treatment of Cholera, Indian M. Gaz. 71: 61 (Feb.) 1936.

81. Souchard, L.: Essais thérapeutiques du choléra par le bactériophage de d'Herelle, Ann. Inst. Pasteur 44: 125-140 (Feb.) 1930.

82. Bruynoghe, R., and Maisin, J.: Essais de thérapie au moyen du bactériophage, Compt. rend. Soc. de biol. 85: 1120-1121, 1921.

83. Gratia, A.: La lyse transmissible du staphylocoque; ses applications thérapeutiques, Compt. rend. Soc. de biol. 86: 276-278, 1922.

84. Gougerot, H., and Peyre, E.: Essai de traitement par le bactériophage dans les infections cutanées, Compt. rend. Soc. de biol. 91: 452-453, 1924.

85. Stout, B. F.: Bacteriophage Therapy, Texas State J. Med. 20: 205-209 (July) 1933.

86. Cipollaro, A. C., and Sheplar, Adele E.: Therapeutic Uses of Bacteriophage in Pyodermias, Arch. Dermat. & Syph. 25: 280-293 (Feb.) 1932.

87. Rice, T. B.: Use of Bacteriophage Filtrates in Treatment of Suppurative Conditions: Report of Three Hundred Cases, Am. J. M. Sc. 179: 345-360 (March) 1930.

88. Larkum, N. W.: Bacteriophage Treatment of Staphylococcus Infections, J. Infect. Dis. 45: 34-41 (July) 1929.

89. Schultz, E. W.: Bacteriophage: Possible Therapeutic Aid in Dental Infections, J. Dent. Research 12: 295-310 (April) 1932.

90. Freund, E. M.: Bacteriophage in Treatment of Furunculosis of External Auditory Canal, Laryngoscope 46: 419-426 (June) 1936.

91. Lampert, R.; Boyce, F. F., and McFetridge, E. M.: Bacteriophage Therapy, Am. J. Surg. 29: 436-443 (Sept.) 1935.

use of phage is the daily application of generous amounts directly to the infected tissues. They obtained good end results in more than 90 per cent of 1,000 cases. Marion⁹² believes that a primary indication for the use of phage is the existence of large carbuncles and facial pyodermias and that, properly applied, phage therapy is the best measure available for their treatment. Steinmann⁹³ has successfully treated two cases of nasal furunculosis, complicated by extension toward the cavernous sinuses, with partially purified phage which he injected into the carotid arteries. The amounts used for each injection varied from 3 to 20 cc.; rapid cures were obtained in both cases. Eisfelder⁹⁴ used injections of phage and direct application of phage-soaked packs in treating furunculosis. He reports his observations in 378 cases, of which 134 were classified as multiple furunculosis. In his experience phage therapy can be relied on to clear up sties and simple boils within one to three days, often after a single application. Thirteen of his patients who had carbuncles of the upper lip recovered. Raiga⁹⁵ holds that phage therapy of staphylococcal infections is to be preferred to other means at our disposal because it represents the way nature effects a cure. He cites 2,759 cases of staphylococcal infection including 685 facial lesions, 1,968 boils and carbuncles elsewhere in the body and 106 instances of septicemia and osteomyelitis. While there is a lack of detailed information in his paper, it is interesting that the gross mortality rate for the entire group was 1.3 per cent and for the patients with facial lesions only 1.4 per cent.

Montant and Guinchard⁹⁶ have injected partially purified phage solutions directly into the brachial artery for the treatment of fourteen patients with hand lesions. They noted prompt alleviation of pain, improvement of lymphangitis and adenitis and a notable reduction in the duration of illness.

While some observers⁹⁷ have been well satisfied with the phage therapy of acne, others⁹⁸ have reported unfavorably. In one series⁹⁹ only fifteen of twenty-nine patients with acne received benefit (52 per cent). The same difference of opinion obtains with respect to sycosis. Stout⁹⁵ rarely noted improvement following the use of phage in treating this condition, and Cipollaro and Sheplar⁸⁶ report indifferent results in twenty-eight cases. On the other hand, Bruynoghe and Maisin⁸² and Gougerot and Peyre⁸⁴ were gratified with the results they have obtained following the repeated application of phage directly to the sycotic areas.

Despite the admitted difficulty of setting up adequate control groups, it is regrettable that this has not been attempted in the studies summarized. The great majority of staphylococcal lesions are self limited, and for this reason it is hard to determine an exact measure of efficiency for any therapeutic agent employed. It must be kept in mind that fully as good and in some instances better results with vaccines and toxoids have been recorded. As a case in point there follow the data

of Whitby,⁹⁸ who used injections of staphylococcus toxoid in treating patients suffering from various types of staphylococcal infections. Of 183 patients with boils, sties and carbuncles 133 (73 per cent) were cured and subsequently had no recurrences. Twenty per cent of the entire group were improved initially but later had recurrences, while only 7 per cent failed to respond. The same sort of results have been reported in work with staphylococcus vaccines.⁹⁹

It seems probable that the host response evoked by the injection of staphylococcus phage can be attributed to the specific and nonspecific immunizing fractions of the crude lysate (see section 2) and on this basis one might anticipate precisely what the available evidence indicates, namely that phage possesses no measurable degree of therapeutic superiority over properly prepared vaccines and toxoid. Its value when applied topically to pyodermias, infected wounds and so on is almost certainly not due to direct lytic destruction of bacteria but resides in the stimulus supplied to the local immune mechanism by the complex materials of the lysed cell suspension. As a matter of fact, a certain amount of this action is independent of either phage itself or bacterial derivatives, for it is known that broth alone can produce a pronounced rise in local tissue resistance (Gratia⁵⁶).

In connection with the general problem of phage administration there is reason to invoke the old dictum

TABLE 1.—Results in a Series Reported by Several Physicians

No. of Cases	Type of Infection	Benefited	
		Number	Per Cent
63.....	Furunculosis	44	70
16.....	Carbuncle	14	88

"primum non nocere." Although it is commonly believed that if phage sometimes does no good it at least can do no harm, reactions ranging from mild to severe were observed in 43 per cent of Larkum's patients receiving injections of phage⁸⁸ and in the majority of patients seen by Cipollaro and Sheplar⁸⁶ and by Bagley and Keller.¹⁰⁰ Very marked local reactions at times follow the use of phage instillations or wet dressings (Bruynoghe and Maisin,⁸² McKinley,¹⁰¹ Gougerot and Peyre⁸⁴) and distressing systemic upsets have been noted after oral ingestion of phage (Violle and Roure¹⁰²). Gowen³⁶ feels that phage applications in the treatment of facial furunculosis are responsible for exacerbations which eventually terminate favorably. Well controlled experimental studies suggest that a fair percentage of the reactions are due to the elaboration of either toxin (King, Boyd and Conlin⁵¹) or the Reynal spreading factor in the course of lysate preparation.

Altogether one gains the impression from the literature to date that staphylococcus phage preparations carefully prepared and intelligently used for systemic or local immunization in the conditions mentioned are

92. Marion, J.: Principes, indications et résultats du traitement des furoncles et anthrax par le bactériophage, Lyon méd. 158: 2-10 (July 5) 1936.

93. Steinmann, J.: Injections de bactériophage intra carotidien pour le traitement des furoncles du nez avec début d'extension vers le sinus caverneux, Schweiz. med. Wchnschr. 67: 1189-1190 (Dec. 11) 1937.

94. Eisfelder, H. W.: Treatment of Furunculosis with Bacteriophage, J. Am. Inst. Homeopathy 31: 604, 1938.

95. Raiga, A.: A propos du traitement du furoncle et de l'avenir du bactériophage, Progrès méd., Nov. 27, 1937, pp. 1673-1682.

96. Montant, R., and Guinchard, P.: Le bactériophage en injections intra-arterielles, Gaz. d. hôp. 110: 1533-1535 (Dec. 1) 1937.

97. Kahn, B. L.: Bacteriophage Therapy for Pyoderma: Report of Twenty Cases, Arch. Dermat. & Syph. 24: 218-227 (Aug.) 1931.

98. Alderson, H. E.: Bacteriophage in Pyogenic Infections of Skin, Arch. Dermat. & Syph. 21: 197-205 (Feb.) 1930.

98. Whitby, L. E. H.: Treatment of Staphylococcal Skin Lesions with Toxoid, Lancet 1: 1454 (June 27) 1936.

99. Wright, A. E.: Studies on Immunization, London, Archibald Constable & Co., Ltd., 1909.

100. Bagley, E. C., and Keller, Margaret: Bacteriophage in Treatment of Osteomyelitis: Study of Ten Cases Including Three Cases Complicated by Staphylococcus Aureus Septicemia, Minnesota Med. 15: 597-601 (Sept.) 1932.

101. McKinley, E. B.: The Bacteriophage in the Treatment of Infections, Arch. Int. Med. 32: 899-910 (Dec.) 1923.

102. Violle, H., and Roure, M. C.: Quelques essais de traitement de la fièvre typhoïde par le bactériophage, Presse méd. 33: 1236 (Sept. 16) 1925.

useful therapeutic agents with about the same indications for clinical application as staphylococcus vaccines and toxoid.

(b) Bacteremias: Invasion of the blood stream by staphylococci is recognized as a grave condition carrying a general mortality variously estimated at between 60 and 80 per cent. In the treatment of this condition by means of phage injections there have been several interesting clinical series. Dutton¹⁰³ had a case mortality of only 8.3 per cent in a group of twelve patients, although five of them may not have had true septicemia. If these five questionable cases are disregarded the mortality still is low (14.3 per cent). MacNeal and Frisbee¹⁰⁴ lost eight of fifteen patients (53 per cent) who were given intravenous injections of specially prepared phage at short intervals. Since then MacNeal and several of his colleagues¹⁰⁵ have had a more extensive experience. He uses an intensive dosage program, injecting phage around any local lesions every twenty-four to forty-eight hours and giving from 100 to 300 cc. of phage intravenously in divided doses until a shock reaction is produced. For from two to three days after the shock smaller intravenous doses are given twice a day. In a series of 100 cases the resultant case mortality was 75 per cent. MacNeal and Frisbee feel that intravenous administration of phage definitely benefits cases of staphylococcal septicemia chiefly through promoting phagocytosis and not by direct lytic action. Longacre, Jern and Meleney¹⁰⁶ have recently reported their results with the phage treatment of thirty-six cases of *Staphylococcus aureus* septicemia. Fifteen of their earlier patients were not given large amounts of phage and the mortality in this group was 73.3 per cent. The last twenty-one patients received what the authors consider to be adequate dosage and as a consequence the case fatality rate dropped to 28.5 per cent. For the whole group of thirty-six phage-treated patients the mortality was 47.2 per cent, while among fifty-four controls 81.4 per cent died. Longacre and his co-workers recommend the use of large amounts of phage as early as possible in the course of the disease. Others have observed as good results in smaller clinical series (Bréhant,¹⁰⁷ Sauvé¹⁰⁸ and Gilbert¹⁰⁹).

It is difficult to reconcile the enormous variation in phage dosage recommended by different investigators with the remarkably uniform end results. American investigators are practically unanimous in counseling the intravenous injection of from twenty to thirty times the amounts used by the French. The one element common to the two schools appears to be the regular induction of shock, and it may well be that this reaction coupled with stimulation of phagocytosis (see section 2) constitutes the essential mechanism at work here. Certainly it is not lysis of blood borne bacteria.

The best of the phage statistics relating to staphylococcal bacteremia are not superior to those obtained

with other therapeutic measures. During the past two years nine patients with proved staphylococcus invasion of the blood stream were seen in the service of Dr. Robert Sutherland at Cowell Memorial Hospital, University of California. They were treated with intravenous injection of large amounts of staphylococcus antitoxin and the intramuscular injection of citrated whole blood obtained from donors previously subjected to intensive immunization with staphylococcus undenatured bacterial antigen (Krueger and Fuendeling¹¹⁰). The mortality was 11 per cent. In another similar group occurring in the practice of several different physicians and comprising sixty-one cases, immune whole blood alone or immune blood plus antitoxin was employed with 18 per cent mortality. The chemotherapeutic approach to the problem likewise has been fruitful, as is evidenced by a reduction in the general mortality from an expected average of 70 per cent to less than 30 (Herrell and Brown¹¹¹).

As we see it, the acceptance of phage therapy as a routine procedure in the treatment of staphylococcal bacteremia should wait on the establishment of a greater body of adequate data. The completely negative results attending the use of phage in experimental septicemia under the most favorable conditions and the uncertain rationale as compared with that demonstrated for each of several other procedures (e. g. administration of antitoxin, blood from immunized donors, chemotherapeutic agents) warrant the conclusion that, as yet, phage therapy is not a method of choice.

(c) Various Suppurative Conditions: Reports on the application of phage therapy to the treatment of various suppurative conditions besides those already considered are numerous, but the great body of this material consists of isolated observations and small clinical series from which conclusions have been drawn without the benefit of either control groups or sufficient bacteriologic data. Although the general tone of the published results is favorable and occasionally enthusiastic, it is not sufficient to offset a serious lack of acceptable scientific evidence. In submitting the following summaries of some of these papers, it is our conviction that they represent interesting clinical experiences rather than rigorous proof establishing phage therapy as a chosen procedure; they indicate clearly the direction future work should take if satisfactory data are to be accumulated.

Boyce, Lampert and McFetridge¹¹² have used phage in the treatment of approximately 1,000 patients with wound infections, abscesses, cellulitis, furuncles and carbuncles. Their record of 90 per cent of successes, they believe, is due to the continuous application of large amounts of phage directly to the infected tissues. Schultz⁸⁹ noted that 47 per cent of seventeen wound infections were improved by phage, while Rice⁸⁷ obtained excellent results in 91 per cent of forty-four cases. Dutton,¹⁰³ McKinley¹⁰¹ and MacNeal¹¹³ report much the same sort of experience.

Rice,⁸⁷ Rixford¹¹⁴ and Ruddell, Sicks and Loomis¹¹⁵ employed phage for the treatment of peritonitis and

103. Dutton, L. O.: *Therapeutic Use of Bacteriophage with Special Reference to Staphylococcus Septicemia*, Southwest. Med. 17: 374-379 (Nov.) 1933.

104. MacNeal, W. J., and Frisbee, F. C.: *Bacteriophage as a Therapeutic Agent in Staphylococcus Bacteremia*, J. A. M. A. 99: 1150-1155 (Oct.) 1932.

105. MacNeal, W. J., and Frisbee, F. C.: *Bacteriophage Service to Patients with Staphylococcus Septicemia*, Am. J. M. Sc. 191: 170-178 (Feb.) 1936. MacNeal, W. J.: *Therapeutic Use of Bacteriophages, Particularly in Sepsis*, New York State J. Med. 39: 451-460 (March 1) 1939.

106. Longacre, A. B.; Zaytseff-Jern, Helen, and Meleney, F. L.: *Treatment of Staphylococcal Septicemia with Bacteriophage*, Surg., Gynec. & Obst. 70: 1 (Jan.) 1940.

107. Bréhant, J.: *Septicopyhémie à staphylocoque doré*, Bacteriophage intraveineux, Mém. acad. de chir. 62: 1110-1111 (Oct. 14) 1936.

108. Sauvé, L.: *Le bactériophage en chirurgie*, Médecine (supp.) 17: 49-54 (June) 1936.

109. Gilbert, W. M.: *Septicemia: Treatment with Bacteriophage*, J. M. A. Georgia 27: 115-158 (April) 1938.

110. Krueger, A. P., and Fuendeling, M. J.: *The Use of Whole Blood from Immunized Donors in the Treatment of Acute Infections*, Urol. & Cutan. Rev. 44: 367-370 (June) 1940.

111. Herrell, W. E., and Brown, A. E.: *The Treatment of Septicemia*, J. A. M. A., to be published.

112. Boyce, Lampert and McFetridge.¹²¹ Lampert, Boyce and McFetridge.⁹¹

113. MacNeal, W. J.: *Uses of Bacteriophages in Wound Infections and in Bacteremias*, Am. J. M. Sc. 184: 805-810 (Dec.) 1932.

114. Rixford, Emmet: *Bacteriophage in Surgery of Colon and Rectum*, Ann. Surg. 94: 640-647 (Oct.) 1931.

115. Ruddell, K. R.; Sicks, O. W., and Loomis, N. S.: *Observations on Use of Bacterial Lysates in Surgical Cases*, Am. J. Surg. 22: 337-342 (Nov.) 1933.

appendical abscess. In the series of Ruddell and his co-workers the phage was placed in the peritoneal cavity at the time of operation with a resultant mortality among twenty-seven patients of only 11 per cent. Tsouloukidzé¹¹⁶ hails phage therapy as "the greatest medical discovery." In five years' experience he observed the clinical courses of forty-seven patients who were operated on for intestinal perforation during typhoid. Of twenty-seven patients treated with surgery alone twenty-four died (mortality 89 per cent); of twenty to whom phage was administered after operation seven died (mortality 35 per cent). King¹¹⁷ describes a small series of phage-treated cases of peritonitis arising as complications of acute appendicitis. He believes that phage has possibilities in this condition and urges its further investigation.

Morrison and Gardner¹¹⁸ have reported careful observations on the use of phage in the treatment of a patient with lung abscess following peritonitis. The abscess developed from an infected embolus and was associated with massive collapse of the left lung and empyema. Surgical measures and repeated irrigations with physiologic solution of sodium chloride for five days failed to control the suppurative process. Within twenty-four hours after the instillation of 30 cc. of phage the necrotic character of the infected area was gone and the patient made an uneventful recovery. Moore¹¹⁹ recommends phage as an adjunct to the general therapy of pulmonary suppuration. Five cc. of mixed staphylococcus-streptococcus phage is instilled into the abscess. Bronchoscopic treatments, vaccine and phage are administered over a long period of time, usually about five months. Thirteen of twenty-three patients were definitely improved by this regimen but it is not possible to evaluate clearly the role played by phage.

Albee¹²⁰ subscribes to d'Herelle's concept that the appearance of phage in infected tissues is a major element in the normal process of host recovery. He has found active phages in some 94 per cent of exudates from acute and chronic cases of osteomyelitis and it is his belief that the efficacy of the Orr closed treatment of osteomyelitis resides in the exceptionally favorable conditions afforded for the spontaneous development of phage. The general routine of immobilization and dressing employed by Albee is in keeping with the best of modern nonintervention teaching, but it does not follow that the results observed are due to native phage. We have not been able to isolate phages from the exudates in cases of osteomyelitis with anything like the frequency reported by Albee, nor when phages have occurred could we relate them to the patient's clinical progress. Albee recommends the paraffin-petrolatum tampon in which a catheter is incorporated for the periodic introduction of phage. He also reports the successful use of phage in clearing up a carrier of *Eberthella typhi* who had positive urine, blood, bile and bone abscess cultures.¹²¹

While similar favorable results following the use of phage in osteomyelitis have been observed by Larkum,⁸⁸ MacNeal¹²² and Raiga,¹²³ other investigators have not received such a good impression. For example, Boyce, Lampert and McFetridge¹²⁴ could not discern any striking effect due to phage which had been administered to ten patients with osteomyelitis. Bagley and Keller¹⁰⁰ found that no improvement ensued when phage dressings were applied to three of their patients with bone lesions caused by organisms other than the staphylococcus. Despite the local and systemic administration of phage to three other patients who presented septicemic complications, two died. Of four patients with uncomplicated staphylococcal osteomyelitis three recovered and one died. Rice⁸⁷ obtained excellent results in four of eleven cases of osteomyelitis treated with phage but he is not enthusiastic about its use in this field.

Stout⁸⁵ records the recovery of two patients suffering from staphylococcal meningitis after the use of phage. Schless¹²⁵ gives a more detailed account of a similar case in which staphylococci were isolated from the spinal fluid on three successive days; during this time the blood culture remained negative. Within twenty-four hours after the intrathecal injection of phage the spinal fluid became sterile and the clinical picture improved. Frank¹²⁶ used phage intravenously early in the treatment of a case of staphylococcal

TABLE 2.—Schreuder's Results

	Definitely Improved	Slightly Improved	Unimproved
29 phage-treated cases..	34.5%	31.0%	34.5%
31 saline-treated cases..	52.0%	32.0%	16.0%

meningitis complicated by septicemia. Later in the course of the disease the phage was given intraspinally but the patient failed to respond and finally died.

Although phage has been used on a fairly large scale in the treatment of acute respiratory infections there is no evidence to show that it has any real influence on their clinical course. In 1933 Schreuder¹²⁷ gave injections of phage to 169 patients presenting symptoms of the common cold. All had acquired the infection within a forty-eight hour period prior to treatment and each patient received injections of phage on three successive days. Thirty-nine per cent were definitely improved, 38 per cent noted slight benefit and 23 per cent were unimproved. In order to extend these observations, Schreuder conducted a similar experiment during the winter of 1934-1935 but this time included a control group, the members of which received injections of saline solution instead of phage. The results are summarized in table 2. Schreuder concludes that the subcutaneous injection of phage is of no demonstrable value in acute colds.

116. Tsouloukidzé, A.: Sur l'application du bactériophage dans la péritonite par perforation au cours de la fièvre typhoïde, *Médecine (supp.)* 17: 41-42 (June) 1936.

117. King, H. J.: Acute Appendicitis: Comparative Survey with Remarks on Its Management, *Am. J. Surg.* 37: 40-56 (July) 1937.

118. Morrison, Samuel, and Gardner, R. E.: The Treatment of a Lung Abscess Due to *Bacillus Coli* with a Lytic Filtrate, *J. A. M. A.* 107: 33-34 (July 4) 1936.

119. Moore, W. F.: Bronchoscopic Treatment of Pulmonary Suppuration with Special Reference to Use of Polyvalent Stock Bacteriophage, *Pennsylvania M. J.* 41: 272-274 (Jan.) 1938.

120. Albee, F. H.: Will Bacteriophage Prove Ideal Wound Treatment? *Am. J. Surg.* 15: 228-236 (Feb.) 1932; Treatment of Osteomyelitis and Septicemia by Bacteriophage, *Rocky Mountain M. J.* 35: 43-46 (Jan.) 1938.

121. Albee, F. H.; Hoskins, W. H., and Collins, C.: Bacteriophage Treatment of Typhoid Fever Carrier with Bone Abscess, *Am. J. Surg.* 33: 317-320 (Aug.) 1936.

122. MacNeal, W. J.: Bacteriophages as Help in Treatment of Infections in Children, *New York State J. Med.* 31: 1383-1386 (Nov. 15) 1931; Infectious Organisms in Osteomyelitis: Bacteriophage and Serum Therapy, *J. Bone & Joint Surg.* 19: 891-903 (Oct.) 1937.

123. Raiga, A.: Guérison par la phagothérapie d'une ostéomyélite aiguë continuant à évoluer malgré trois opérations successives, *Bull. et. mém. Soc. d. chirurgiens de Paris* 29: 42-56 (Jan. 8) 1937.

124. Boyce, F. F.; Lampert, R., and McFetridge, E. M.: Bacteriophage in Treatment of Infections of Superficial and Deep Tissues with Report of Two Hundred Cases, *New Orleans M. & S. J.* 86: 158-165 (Sept.) 1933.

125. Schless, R. A.: Staphylococcus Aureus Meningitis: Treatment with Specific Bacteriophage, *Am. J. Dis. Child.* 44: 813-822 (Oct.) 1932.

126. Frank, D. E.: Staphylococcal Meningitis Treated with Autogenous Bacteriophage, *J. M. Soc. New Jersey* 33: 466-471 (Aug.) 1936.

127. Schreuder, O. B.: Treatment of Acute Colds with Bacteriophage: Lysed Bacterial Antigen, *Mil. Surgeon* 78: 211-216 (March) 1936.

Ruskin¹²⁸ states that he has found phage therapy helpful in cases of recurrent acute nasal infection, but practically continuous treatment was required to produce any benefit. For the phage treatment of sinusitis he stresses the necessity of avoiding chemical antiseptics and recommends the topical use of large amounts of phage. Hosen and Signorelli¹²⁹ believe that the administration of phage-lysed suspensions of the common respiratory invaders during the early stages of the common cold will serve to prevent many of the complications such as chronic sinusitis or bronchitis. Halphen¹³⁰ has not obtained good results with phage in treating chronic maxillary sinusitis, otitis media or chronic mastoiditis but considers it valuable for furunculosis of the ear canal, ozena and tonsillar phlegmon.

Dechaume¹³¹ has developed a technic for the application of phage in cases of maxillary osteitis. He states that the results in his hands have been both good and remarkably rapid, but one cannot tell from his paper on what clinical background this opinion is based nor is there evidence of critical comparison with other modes of treatment. Raiga¹³² cites fifty-two cases of odontopathic phlegmon in which phage therapy was found to be helpful.

3. Urinary Tract Infections.—Theoretically, uncomplicated infections of the urinary tract should offer potentialities for the application of phage therapy. They are usually well localized processes and the tissues involved are readily accessible, so that almost any desired amount of phage can be brought into contact with them. Nevertheless there is little in the published results to suggest that phage therapy has any significant superiority over the common chemotherapeutic approaches (mandelic acid, sulfanilamide and so on).

The optimal procedure for administering phage to patients with urinary tract infections seems to comprise a combination of subcutaneous or intramuscular injection and instillation directly into the bladder or kidney pelves. Zdansky¹³³ obtained 30 per cent of cures among a total of twenty cases of cystitis in which he administered bladder instillations. Approximately the same percentage of favorable results is reported by Munter and Boenheim¹³⁴ following intramuscular injection of phage into thirteen children with cystitis. Cowie¹³⁵ used subcutaneous injections alone in treating eleven cases of urinary tract infection. Six acute cases were cured in from three to five days, but only one patient of five with chronic infections showed permanent benefit. Cline¹³⁶ successfully treated twelve of fourteen children suffering from pyelitis by means of phage administered subcutaneously.

Dalsace¹³⁷ gave phage by the oral, subcutaneous and intramuscular routes to nine patients with staphylococcal

infections of the urinary tract and to twelve who had *Bacillus coli* infections. In the former group six were cured, in the latter only two, although eight others showed some improvement. Wehrbein¹³⁸ has found phage helpful in treating superficial genito-urinary infections but of no value in cases of kidney abscess, vesiculitis or prostatitis. Among a group of ten patients who had acute pyelitis seven were cured by a single topical application. The results in chronic pyelitis were less impressive, there being only five cures (21 per cent) among twenty-four cases. This coincides well with the observations of Krueger, Faber and Schultz,¹³⁹ who combined bladder instillations and subcutaneous injections for administering phage to thirty-five selected patients with chronic uncomplicated urinary tract infections. Four (11 per cent) were promptly cured; of twenty-five patients (72 per cent) who gradually recovered, the response was not clearly attributable to the phage. Christiansen¹⁴⁰ has reported the same sort of data. Schultz¹⁴¹ supplied phage to physicians for treatment of urinary tract infections and has analyzed the reports submitted to him. Including both cured and improved patients in one group there were seventy-two favorable responses (48 per cent) out of 151 patients treated. Seventeen of the seventy-two subsequently had recurrences and, if this is allowed for, the favorable results are reduced to fifty-five cases (36 per cent).

While some authors claim to have had considerably better results with phage therapy in chronic urinary tract infections (Frisch,¹⁴² Voss,¹⁴³ Michon¹⁴⁴), the collected statistics in general do not afford convincing evidence of its value. There are several fundamental factors operating against attainment of bacteriophage in the bladders or kidney pelves of these patients. Under ordinary conditions, phage introduced into the urinary tract is subject to constant dilution, with the result that it may be completely washed out inside of twenty-four hours (Larkum,¹⁴⁵ Zdansky¹³³). The diluting menstium, urine, contains materials such as dead bacteria and tissue debris which actually bind phage and prevent its participation in the reaction with living organisms (see section 2). At times the phage may persist in the urinary tract for months without, however, exerting any appreciable effect on the clinical course of the infection (Caldwell¹⁴⁶). This is due to the fact that certain strains of bacteria are lysogenic and act as phage carriers but do not themselves undergo massive cellular lysis. In pyelitis or cystitis secondary to kidney abscess, renal tuberculosis, hydronephrosis, ureteral stricture, and so on, there is practically universal agreement that phage therapy is of no permanent value (Hinman,¹⁴⁷ Ravina,¹⁴⁸ Wehrbein¹³⁸). The uncompli-

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142. Frisch, B.: Zur Behandlung der Koliinfektion des Harntraktes mit Bakteriophagen, *Wien. klin. Wchnschr.* **38**: 839-841 (July 23) 1925.

143. Voss, J. A.: Researches on Bacteriophage and Bacteriophage Therapy, *Norsk mag. f. lægevidensk.* **90**: 853-877 (Aug.) 1929.

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cated acute cases which respond best of all to the administration of phage are equally responsive to other therapeutic measures.

Relatively little work has been done with the phage treatment of gonorrhea. In fact it appears that investigators reporting clinical series under this heading have not utilized a true phage. For example, Pelouze and Schofield¹⁴⁹ observed in filtered aqueous extracts made from old cultures of gonococci an agent capable of killing gonococci within five to twenty-four hours. This so-called "gono-phage" failed to produce plaques in agar cultures of gonococci and did not induce the characteristic clearing of gonococcus suspensions. Since its reported properties do not fulfil the criteria established for bacteriophages, the use of the term "gono-phage" does not seem justified. Schmidt-La Baume and Fonrobert¹⁵⁰ as well as Balozet and Lepinay¹⁵¹ have been unable to demonstrate a true phage active against the gonococcus. They found, however, that filtrates of gonococcus cultures regularly contained a growth inhibitor for this organism.

Regardless of the nature of the material studied by Pelouze and Schofield, it was employed in the treatment of forty patients with acute gonorrhea. Some suggestive results were obtained but there was no definite evidence that the course or duration of the disease was influenced. In fact, Pelouze and Schofield have taken pains to point out the very definite limitations of gonophage therapy. More recently Burnet and Salberg¹⁵² have described a disappointing experience with the topical use of gonococcus lysate incorporated in a jelly. Among a group of eighty-eight women suffering from gonorrhea, all of whom received treatments with the lysate, extension of the infection to the pelvic organs occurred in 35 per cent. This represented three times the expected incidence. In 75 per cent of the patients who had such complications the pelvic involvement took place within three weeks, i. e. much earlier than would normally be anticipated. The authors conclude that the lysate somehow altered the local tissue response and thus contributed to upward dissemination of organisms. They are convinced that severe peritoneal irritation is a common accompaniment of the lysate treatment and therefore condemn its use.

SUMMARY AND CONCLUSIONS

1. The nature of bacteriophage is no longer in question. It is a protein of high molecular weight and appears to be formed from a precursor originating within the bacterium. There is evidence that the precursor likewise is a protein and that it is synthesized by the cell during a phase of accelerated metabolic activity. The process by which the inactive precursor is transformed into active phage is catalyzed by phage; i. e., the primary reaction is:

Inactive Phage precursor + Phage \longrightarrow Phage

2. For all practical purposes phage production proceeds at a significant rate only when the environment permits bacterial growth and concomitant synthesis of precursor. The most prominent phase of bacteriophagy,

massive dissolution of the susceptible bacteria, takes place when enough phage has accumulated to raise the phage/bacteria ratio to the critical lytic threshold.

While phage action in vitro is spectacularly effective in bringing about bacterial destruction, bacteriophagy in vivo operates on a much less efficient scale and plays a negligible part in the clinical application of phage. There is no substantial evidence that the spontaneous development of phage in the infected host has any bearing on the process of recovery.

Four alternative mechanisms by means of which lysates conceivably may exert a beneficial therapeutic effect include:

(a) Phage-induced dissociation of less virulent variants from the original pathogenic invader.

(b) Augmentation of phagocytic efficiency through phage action.

(c) Stimulation of specific antibacterial immunity in the host by antigenic fractions of lysed organisms.

(d) Activation of specific or nonspecific immune mechanisms of the host by entirely nonspecific elements in the lysate.

The first of these is of little more than possible significance but the last three are unquestionably important and completely outweigh the long overstressed theory that lysis of bacteria in vivo is responsible for the clinical successes of phage therapy.

3. The reported data on the use of phage in various diseases caused by bacteria are for the most part insufficient to establish phage therapy as a method of choice. Only rarely have these studies included an adequate bacteriologic background, control groups or careful comparison with accepted therapeutic procedures. There is evidence, however, that a properly prepared lysate can serve satisfactorily as:

(a) A vaccine for the treatment of certain diseases, e. g. some types of staphylococcal lesions.

(b) An agent for the induction of nonspecific protein shock in syndromes in which at times such shock may be used to good purpose, e. g. typhoid.

(c) A measure for enhancing the general resistance of an infected area when applied topically. This depends on its nonspecific action in mobilizing macrophages and microphages.

It is equally evident that phage solutions possess no measurable degree of superiority over well known and accepted preparations employed for the same purposes; for example, bacterial vaccine and toxoid in carbuncles and furunculosis or typhoid vaccine in nonspecific protein shock therapy. Modern chemotherapeutic approaches to the treatment of a variety of conditions for which phage has been recommended (cystitis, pyelitis, gonorrhea, certain bacteremias) offer more chances of success than does phage.

While it has become almost axiomatic to state that the use of phage is entirely innocuous, we have not found this to be the case. The literature provides numerous accounts of reactions ranging from mild to severe following the injection, local application or ingestion of phage, and animal experimental work has shown that lysates may contain enough soluble toxin or Reynal's spreading factor to be actually dangerous.

4. Although it is admittedly very difficult to arrive at definite conclusions regarding the efficacy of any therapeutic agent used for the treatment of certain diseases, the accumulated clinical data on phage are in some instances highly suggestive and warrant the continuation of further studies under thoroughly controlled conditions. This is particularly true of cholera.

149. Pelouze, P. S., and Schofield, F. S.: The Gonophage: A Laboratory and Clinical Study of the Bacteriophagic Principle Elaborated by the Gonococcus, *J. Urol.* **17**: 407-438 (April) 1927.

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THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

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SATURDAY, MAY 17, 1941

THE DIET OF THE AMERICAN SOLDIER

Food is one of the most important single factors in maintaining good morale among soldiers. The rigors of military life, particularly during warfare, tax to the utmost the physical and mental stamina. Recently Lieut. Col. Paul P. Logan,¹ chief of the Subsistence Branch of the Office of the Quartermaster General, has answered fully the query as to how the American soldier is fed.

The composition of the ration, or food which is provided for each soldier daily, may vary considerably depending on circumstances. Thus the diet of men in the field during warfare may be quite different from that of those in garrisons far from the scenes of conflict. The ration of the garrison provides all the constituents of a properly balanced diet and includes among other items a variety of meats, vegetables, fruits and beverages. The rations issued in the field are, of course, influenced by the fact that the food supply lines may be disturbed or interrupted. For this reason extra quantities of nonperishable materials are carried on truck trains which accompany the troops. Each man has, moreover, a reserve of food which he carries as part of his personal equipment. Among field rations there are a number of types. Field ration A, for example, which is issued whenever circumstances permit, conforms closely to the garrison ration and includes such items as fresh meats, bread, butter and possibly fresh fruit and vegetables. Field ration B includes canned meats, evaporated milk, hard bread and similar relatively nonperishable provisions which do not require refrigeration. This ration is intended for use when circumstances, such as failure of transportation, make it impossible to issue the more desirable type A. Type C ration, consisting of six cans of prepared food, is also available for use when conditions prevent the issuance of types A or B. The cans contain different combinations of meat and vegetables, whole milk crackers, cube sugar and a chocolate wafer. This ration may be eaten hot or cold

and is carried by the soldier as part of his equipment. A comparatively simple emergency ration, consisting merely of sweetened chocolate bars containing oat flour, has also been designed and is intended for use when all other food supplies are lacking.

While the garrison diet of soldiers may be excellent, the food of men in the field may at times be deficient both in quantity and in quality. Fortunately, as pointed out by Logan, fighting units do not generally remain in the combat zone for a long time. Although it may be difficult to insure a well balanced diet to men in the zone of combat, everything possible is done to feed them adequately under all conditions. Many problems relating to the nutritional adequacy of the diet of the military forces are being intensively studied. No doubt these and the problems relating to certain diets will be considered in the National Nutrition Conference for Defense announced for May 26.

CASE FINDING IN TUBERCULOSIS

Basic in the success of public health efforts for the control of tuberculosis is the widespread application of adequate methods for finding active and infectious cases. Important developments in this field promise still further inroads on the morbidity and mortality from this condition, the diminishing death rate of which has been one of the spectacular phenomena of the past generation. Probably tuberculosis, as a major public health menace, could be brought under control by the use of knowledge and technics now at hand.

The methods now in use for detecting tuberculosis are varied. The procedure may start with a complete physical examination, followed by a tuberculin test. If any indication of the disease is found, a roentgenogram of the chest is made. In some places mass examinations are conducted which include the taking of a full sized roentgenogram of every person examined. Sometimes all other procedures are omitted on the first examination.¹ Such extremes in technic are under attack, the first as being cumbersome and ineffective and the second as unnecessarily expensive.

Early tuberculosis rarely causes symptoms and in most cases is not detectable by physical examination. However, physical examination, accompanied by the usual laboratory procedures, must always be made in the evaluation of the disease process, once found or suspected. Case finding involves recognition of the disease among large groups of people with the greatest possible speed and efficiency.

Present day effort centers on a compromise between the extremes of procedure, with the development of effective but relatively inexpensive methods for "screening" large numbers of persons, followed by complete

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1. Edwards, Herbert R.: Tuberculosis Case Finding: Studies in Mass Surveys, Am. Rev. Tuberc. (supp.) 41: 3 (June) 1940.

examination of those found to be positive or suggestive by the screening method used. The time honored screening method is the tuberculin test, which can be applied either with or without physical examination.² There seems to be a tendency away from this test,³ although it is still vigorously defended. For the most part, the modern approach to case finding is by adaptations of the roentgen ray technic to avoid the expense of material and processing for full sized film in every case.

First is application of the fluoroscope.⁴ In competent hands this is both highly effective and relatively inexpensive as a means of finding suggestive and positive cases for further examination, and of eliminating negative cases. Second is the miniature roentgenogram,⁵ which depends on photographing the fluoroscopic image on a small film. For this purpose both the 35 mm. motion picture film and the 4 by 5 inch film have been used. The former has the advantage of lower cost for material and processing, and the disadvantage that it must be enlarged, ordinarily by projection, for interpretation. The relative merits of the various methods proposed are technical and economic questions to be decided on the basis of further experience.

Efficacy of any case finding program in tuberculosis depends only in part on the technics employed in examination. Behind this is the broader question of the selection of groups for examination and of bringing them under observation. With the change in technics there is a corresponding shift from a passive attitude in case finding, which leaves the initiative in seeking examination to the individual, perhaps encouraged by health education efforts, to more aggressive programs which provide machinery to look for cases where they are presumed to exist. This has led to mass examinations in industries, in schools and colleges, in prisons, among some occupational and racial groups and among pregnant women, and even house to house canvasses. The success of such efforts may be expected to influence to a considerable degree the management of the tuberculosis problems which will arise under recruiting for the defense program.

Bloch and his collaborators⁴ have recently made a strong case for centering case finding efforts in out-

patient clinics. In their words, "a clinic offers the opportunity to conduct a routine roentgenologic search of the populace without the necessity of solicitation." As a result of their experience they suggest that roentgenologic examination of the chest, which they carried out by means of the fluoroscope, should become a routine procedure in all medical institutions. They draw the analogy with the Wassermann reaction and point out that the returns from routine fluoroscopy, in persons not under suspicion, are at least as great as those from routine serologic tests. A by-product of these examinations, and one which adds weight to the argument in their favor, has been the finding of an unexpected number of cases of disorders in the chest other than tuberculosis.

With the development of new technics in examination and with a more aggressive attitude in the search for active cases of tuberculosis the public health aspects of this disease enter a new phase. One of the first results of the new approach, where it has been applied extensively, is an increase in the incidence of reported cases and in the number of deaths recognized as due to tuberculosis. Another initial effect of efficient case finding is the reversal of the relative proportions of minimal and advanced tuberculosis, the latter having always been predominant among institutionalized patients. The bringing of a larger proportion of the active cases in a community under observation and control will tend, in the long run, to a decrease in the actual incidence and death rate.

Current Comment

IMPAIRED JUDGMENT FROM SULFANILAMIDE

Many therapeutically effective drugs influence the physiologic mechanisms, psychomotor reactions or judgment of persons who take them. When given to patients at rest in bed such drugs have been established as beneficial to the patient and of course harmless to other persons. Under some circumstances, however, drugs may have effects potentially dangerous to both patient and community. Not long ago a locomotive engineer who was taking sulfanilamide for an infection of the bladder was involved in an accident in which considerable property damage was done and a number of people were injured. He described the event as follows:

Approaching the station where the accident occurred, a feeling of lassitude seems to have crept over me unawares and to the extent that I do not have much recollection of what went on for the last two or three miles. I was sitting on my seat, looking out and feeling that I was on the alert. . . . Actually I was not on the job with all my faculties. I passed landmarks customarily used to locate position without seeing them, even to the station board; and it was only when the hazard became imminent that I was aroused out of it and became efficient.

2. Myers, J. A.: The Detection of Tuberculous Infection, J. A. M. A. **112**: 1904 (May 13) 1939. Long, E. R.: The Tuberculin Test, Am. Rev. Tuberc. **40**: 607 (Dec.) 1939.

3. Bloch, Robert G.: Case Finding in Tuberculosis, Am. Rev. Tuberc. **63**: 213 (Feb.) 1941. McKneely, T. B.: Evaluation of Tuberculosis Test as Screen in School Case Finding Programs, Tr. Nat. Tuberc. A. **34**: 290, 1938. Knies, P. T.: The Detection of Tuberculosis in Group Surveys, Am. Rev. Tuberc. **39**: 766 (June) 1939. Tice, Frederick: Tuberculin Testing in the Chicago Schools, Bulletin of the City of Chicago Municipal Tuberculosis Sanitarium, **18-19-20**: 7, 1938-1939-1940.

4. Bloch, Robert G.; Francis, Byron F.; Eisele, C. Wesley, and Mason, Elwood W.: Roentgenological Group Examinations for Pulmonary Tuberculosis, Am. Rev. Tuberc. **37**: 174 (Feb.) 1938. Bloch, Robert G.; Tucker, William B., and Bryant, J. Edmond: Roentgenologic Group Examinations for Pulmonary Tuberculosis in Negroes in Chicago: Preliminary Report, J. A. M. A. **115**: 1866 (Nov. 30) 1940.

5. Potter, H. E.; Douglas, B. H., and Birkelo, C. C.: Miniature X-Ray Chest Film, Radiology **34**: 283 (March) 1940. Bridge, Ezra: Fluoroscopic Roentgenography, Am. Rev. Tuberc. **42**: 155 (Aug.) 1940. Tice, Frederick: The Miniature X-Ray Film in the "Total Survey," J. A. M. A. **115**: 1254 (Oct. 12) 1940. Douglas, Bruce H.; Birkelo, C. C.; Harmon, G. E., and Vaughan, Henry F.: Use of Miniature X-Ray Films in Tuberculosis Case Finding, Am. J. Pub. Health **30**: 1427 (Dec.) 1940.

Already physicians have ruled that airplane pilots must not fly until four days have elapsed after they have received any of the sulfonamide group. Patients engaged in mechanical work of any kind should not take sulfanilamide except when relieved from their responsibilities. Physicians thus have a definite obligation when prescribing sulfanilamide. Patients should be cautioned preferably to stay at home and at rest while taking the drug and not to drive an automobile, make any important decision or sign any papers while the drug is being administered. Such recommendations seem especially advisable in view of the insidiously developing reactions of sulfanilamide when compared with such drugs as the bromides and the barbiturates.

U. S. GOVERNMENT VS. AMERICAN MEDICAL ASSOCIATION ET AL.

In this issue of *THE JOURNAL* appears the final instalment of the proceedings of the trial of the U. S. Government versus the American Medical Association and other defendants. In this instalment are included the final arguments presented to the jury by attorneys Lewin and Kelleher representing the government and William E. Leahy representing the American Medical Association. A careful reading of these arguments will provide a general résumé of the evidence as presented by each side and the interpretations placed on the evidence by the attorneys who spoke. As was published previously, the jury brought in a verdict which found the American Medical Association and the District of Columbia Medical Society guilty but all of the individual defendants not guilty. On May 2 attorneys for the American Medical Association and the other defendants appeared before the court and offered three motions which asked that the verdict of guilty be set aside and a judgment entered in favor of the two corporate defendants, another motion that there be an arrest of judgment, and a third motion that there be granted a new trial. At that time the court offered opportunity to attorneys for the defense and for the government to present additional briefs in support of this motion and opposed thereto on May 10, after which date the court would take the matter under advisement. At this time the court has not yet rendered a decision. No doubt the Board of Trustees and the House of Delegates of the Association at the session to be held in Cleveland, June 2 to 6, will give this matter further consideration as to the procedure to be followed in the future in the conduct of this case.

HEREDITARY TUBERCULOUS DIATHESIS

The establishment of six inbred strains of rabbits with different hereditary resistance to tuberculosis is reported by Lurie¹ of the Henry Phipps Institute, Philadelphia. Two of these families are hereditarily hypersusceptible to tuberculosis, one is hereditarily immune and three are of intermediate susceptibility. The fundamental difference between these family groups is in the degree to which the infection is limited to the port of entry. In tuberculosis naturally acquired by respiratory contagion the most resistant family confines

the disease to the lungs, with little or no dissemination to other parts of the body. In the two hypersusceptible families there is a rapid spread by lymph and blood stream. When members of the resistant family are injected intracutaneously with killed tubercle bacilli there is a rapid development of tuberculin sensitivity, with prompt appearance of high titer specific agglutinins. On control vaccination the hypersusceptible family groups develop little or no allergic sensitivity, with almost no formation of specific agglutinins. If these two contrasting groups are afterward injected intracutaneously with living virulent tubercle bacilli, the resistant family develops local lesions which rapidly heal. They quickly develop a local tissue immunity, the local mononuclear cells acquiring the capacity of inhibiting the growth of ingested tubercle bacilli. In the hypersusceptible groups the local lesions show almost no tendency to heal, and the local macrophages do not develop intracellular bacteriostatic properties. The ingested tubercle bacilli multiply rapidly in the cytoplasm of these hypersusceptible cells. An intermediate degree of local macrophagic immunity is shown by families of intermediate resistance. Breeding experiments between resistance and susceptible family groups are now in progress.

MIXTURES CONTAINING ACETANILID

Three articles on health hazards in acetanilid-containing nostrums and mixtures appeared in the September, October and November issues of the *Journal of the American Dental Association*. The author, Dr. Paul J. Hanzlik, professor of pharmacology at Stanford University School of Medicine, points out how frequently the medical profession and the public may come in contact with acetanilid mixtures. Often the name under which the product is marketed is so misleading that a true concept of the ingredients must be gained from other information. The pharmaceutical industry "boasts" of disposing of "tons" of acetanilid in the United States. Hence it is not surprising that the problem of chronic and acute intoxication should arise. Hanzlik's three papers delve into the problem of chronic intoxication, discuss chronic effects, which include such symptoms as anorexia, impaired nutrition, loss of body weight, anemia, diminished resistance to intercurrent infections, lassitude, dizziness, headaches and apathy; review the question of cyanosis and hemoglobin changes as sulfhemoglobinemia; pass on to an evaluation of addiction and abstinence symptoms and a comparison of the acute fatal and tolerated doses of acetanilid in animals and man, and end with a discussion of the nature of acetanilid analgesia and the analgesia and symptomatic relief by rational procedures other than the use of analgesic drugs. *THE JOURNAL* has repeatedly carried reports by the Council on Pharmacy and Chemistry and the Bureau of Investigation of the American Medical Association on the possible injurious effects of certain preparations containing acetanilid or other coal tar derivatives proposed for similar pharmacologic effects. The reports by Hanzlik offer an up to date and complete review on the dangers of acetanilid when subjected to promiscuous use.

1. Lurie, M. R. Science 92:457 (Nov. 15) 1940.

MEDICAL PREPAREDNESS

In this section of The Journal each week will appear official notices by the Committee on Medical Preparedness of the American Medical Association, announcements by the Surgeon Generals of the Army, Navy and Public Health Service, and other governmental agencies dealing with medical preparedness, and such other information and announcements as will be useful to the medical profession.

ARMY RESERVE OFFICERS ORDERED TO ACTIVE DUTY

FIRST CORPS AREA

The following additional medical reserve corps officers have been ordered to extended active duty by the Commanding General, First Corps Area, which comprises the states of Maine, Vermont, New Hampshire, Rhode Island, Massachusetts and Connecticut:

CARY, Francis F., 1st Lieut., Springfield, Mass., Camp Edwards, Mass.
DENHOFF, Eric, 1st Lieut., Taunton, Mass., Fort Devens, Mass.

SECOND CORPS AREA

The following additional medical reserve corps officers have been ordered to active duty by the Commanding General, Second Corps Area, which comprises the states of New York, New Jersey and Delaware:

BAXT, Sydney J., 1st Lieut., Brooklyn, Headquarters 2d Military Area, New York.
BEACH, Philip A., 1st Lieut., New York, Camp Livingston, La.
BEIN, Morris, 1st Lieut., Brooklyn, Headquarters 2d Military Area, New York.
BELGOROD, Samuel H., 1st Lieut., New York, Camp Livingston, La.
BENENSON, William, 1st Lieut., Flushing, L. I., N. Y., Fort Benning, Ga.
BENSON, Murray, 1st Lieut., New York, Camp Lee, Va.
BOCKAR, Arnold, 1st Lieut., Warwick, N. Y., Headquarters 2d Military Area, N. Y.
BRESCHIA, James J., 1st Lieut., Montgomery, N. Y., Headquarters 2d Military Area, New York.
BROWN, Robert E., Captain, Mount Vernon, N. Y., Camp Livingston, La.
CAGAN, Aaron, 1st Lieut., Brooklyn, Fort Benning, Ga.
CANAAAN, Robert, 1st Lieut., Forest Hills, N. Y., Carlisle Barracks, Pa.
CAVUOTI, Michael A., 1st Lieut., Greenvale, L. I., N. Y., Camp Lee, Va.
CHARTERS, Raphael R., 1st Lieut., Brooklyn, New York Port of Embarkment (Army Base), Brooklyn.
CHIRICO, Dominic F., 1st Lieut., Brooklyn, Fort Dix, N. J.
COCKERILL, Thomas J., 1st Lieut., New York, New York Port of Embarkment (Army Base), Brooklyn.
COLEMAN, Robert R., 1st Lieut., Queens Village, N. Y., Alabama Institute of Aeronautics, Tuscaloosa, Ala.
COSGROVE, Joseph V., 1st Lieut., New York, Carlisle Barracks, Pa.
DENEFF, Carl, 1st Lieut., Brooklyn, Fort Jackson, S. C.
DIAMOND, Joseph L., Captain, New York, Camp Stewart, Ga.
FARBER, Harry, 1st Lieut., Brooklyn, Fort Jackson, S. C.
FINE, Sydney G., 1st Lieut., Trenton, N. J., Camp Livingston, La.
FRANCO, Biagio, 1st Lieut., New York, Fort Bragg, N. C.
GIARDINA, Anthony L., Captain, Brooklyn, Fort Niagara, N. Y.
GLASS, Burt A., 1st Lieut., New York, Camp Blanding, Fla.
GLUCK, Roland, 1st Lieut., Brooklyn, Fort Totten, N. Y.
GRANGER, James R., 1st Lieut., New York, Headquarters 2d Military Area, New York.
GRAY, Philip, 1st Lieut., Brooklyn, Camp Lee, Va.
GREENBERG, Avrom M., 1st Lieut., Whitesville, N. Y., Camp Lee, Va.
GREENBERG, Samuel I., 1st Lieut., Brooklyn, Camp Croft, S. C.
HABER, Mordecai, 1st Lieut., New York, Fort Bragg, N. C.
HAIGHT, Julius R., 1st Lieut., Wingdale, N. Y., Fort Jackson, S. C.
HEAD, Arthur E., 1st Lieut., Gouverneur, N. Y., Fort DuPont, Del.
HOCH, Samuel, 1st Lieut., Lynbrook, L. I., N. Y., Camp Lee, Va.
HOROWITZ, Albert W., 1st Lieut., Brooklyn, Camp Lee, Va.
ISRAEL, Murray, 1st Lieut., Williston Park N. Y., Carlisle Barracks, Pa.
JASPIN, George, 1st Lieut., Rockville Center, N. Y., Fort DuPont, Del.
KABACK, Harry, 1st Lieut., New York, Camp Lee, Va.
KATZ, Sidney, 1st Lieut., New York, Fort Bragg, N. C.
KAUFMAN, Samuel S., 1st Lieut., New York, Carlisle Barracks, Pa.
KAUNITZ, Paul E., 1st Lieut., Brooklyn, Carlisle Barracks, Pa.
KELLY, William M., 1st Lieut., White Plains, N. Y., New York Port of Embarkment (Army Base), Brooklyn.
KIDDER, James H., 1st Lieut., Fort Dix, N. J., Carlisle Barracks, Pa.
LANDMANN, Heinz R., 1st Lieut., New York, Fort Benning, Ga.
LEADLEY, Jerome H., 1st Lieut., Rochester, N. Y., Fort Slocum, N. Y.
LEDERMAN, Solomon J., 1st Lieut., New York, Carlstrom Field, Fla.
LEE, Arthur B., 1st Lieut., Brooklyn, Fort Bragg, N. C.
LEVINE, Abraham I., 1st Lieut., Brooklyn, Graham Aviation Company, Americus, Ga.
LEVINE, Morris J., 1st Lieut., Atlantic City, N. J., Camp Claiborne, La.

HADFIELD, Jonathan P., Major, Fall River, Mass., Fort H. G. Wright, N. Y.
LEVIN, Robert M., 1st Lieut., Hartford, Conn., Camp Edwards, Mass.
MULHAIRE, Victor J., 1st Lieut., Hooksett, N. H., Camp Langdon, N. H.
NICHOLS, Arthur A., 1st Lieut., Newtonville, Mass., Camp Edwards, Mass.
PERKINS, George E., Lieut.-Col., Boston, Providence, R. I.
POLLOCK, Henry M., Jr., 1st Lieut., West Medford, Mass., Fort Devens, Mass.
WALKER, Robert, 1st Lieut., Cornwall, Conn., Fort Adams, R. I.

LEVINSON, Leonard J., 1st Lieut., Brooklyn, Fort DuPont, Del.
LOCASCIO, John, 1st Lieut., New York, Camp Lee, Va.
LONG, Hugh K., 1st Lieut., New York, Carlisle Barracks, Pa.
LYNCH, Vincent A., 1st Lieut., Rosedale, L. I., N. Y., Fort Bragg, N. C.
MACCA, Joseph A., 1st Lieut., Forest Hills, N. Y., Camp Blanding, Fla.
MALACH, Robert R., 1st Lieut., New York, Camp Forrest, Tenn.
MARAY, Hugh Z., 1st Lieut., New York, Carlisle Barracks, Pa.
MARGOLIN, Samuel, 1st Lieut., New York, Fort Bragg, N. C.
MAZZA, Peter A., 1st Lieut., Mount Vernon, N. Y., Carlisle Barracks, Pa.
MCCOWN, Ira A., 1st Lieut., New York, Camp Livingston, La.
McLAUGHLIN, Thomas F., 1st Lieut., Metuchen, N. J., Fort Jackson, S. C.
MECKLIN, Bennie, 1st Lieut., Depauville, N. Y., Fort Slocum, N. Y.
MERCURI, Pasquale A., 1st Lieut., New York, Camp Livingston, La.
MERRICK, Theodore P., 1st Lieut., New York, Fort Moultrie, S. C.
MERRILL, Frederick H., 1st Lieut., New York, Fort Niagara, N. Y.
MESSINA, Joseph C., 1st Lieut., Brooklyn, Carlisle Barracks, Pa.
MORIARTY, Webster M., Captain, Saratoga Springs, N. Y., Fort Slocum, N. Y.
MYERSON, Alfred I., 1st Lieut., Brooklyn, Camp Livingston, La.
NEWMAN, Herbert F., 1st Lieut., Brooklyn, Fort Lee, Va.
NOBILETTI, Frank, 1st Lieut., Kew Gardens, L. I., N. Y., Camp Livingston, La.
PHEASANT, Homer C., 1st Lieut., New York, Fort Monmouth, N. J.
PICOLLO, Anthony R., 1st Lieut., Union City, N. J., Camp Claiborne, La.
PISANI, Bernard J., 1st Lieut., New York, Fort Totten, N. Y.
POMPER, Irving, 1st Lieut., New York, Fort Jackson, S. C.
POZNER, Harry B., 1st Lieut., New York, Fort Bragg, N. C.
PRUSSIN, George, 1st Lieut., Brooklyn, Fort McClellan, Ala.
REINSTEIN, Herman, 1st Lieut., Brooklyn, Carlisle Barracks, Pa.
RIFORGIATO, Frank T., 1st Lieut., Buffalo, Fort Niagara, N. Y.
RIVKIN, Raymond, 1st Lieut., Jamaica, L. I., N. Y., Camp Lee, Va.
ROCHE, John R., 1st Lieut., Brooklyn, Fort Benning, Ga.
ROSENTHAL, Quintin, 1st Lieut., New York, Fort Monmouth, N. J.
ROSSANO, Thomas A., 1st Lieut., New York, Fort Benning, Ga.
RUDIN, Louis N., 1st Lieut., Welfare Island, N. Y., Fort DuPont, Del.
SAYET, Maxwell Martin, 1st Lieut., New York, Camp Blanding, Fla.
SCHLEIFER, Morris, 1st Lieut., Brooklyn, Fort Bragg, N. C.
SERGIS, Mooshy, 1st Lieut., New York, Fort Bragg, N. C.
SHAFER, Donald M., 1st Lieut., New York, Fort Totten, N. Y.
SILVERSTEIN, Louis M., 1st Lieut., Brooklyn, Camp Claiborne, La.
SINGER, Joseph I., 1st Lieut., Brooklyn, New York Port of Embarkment (Army Base), Brooklyn.
SPITZER, Joseph M., 1st Lieut., Forest Hills, L. I., N. Y., Carlisle Barracks, Pa.
STAFF, Henry, Captain, New York, Camp Claiborne, La.
TEITEL, Louis, 1st Lieut., New York, Camp Lee, Va.
THOMAS, Lowell I., 1st Lieut., Long Island City, N. Y., Camp Blanding, Fla.
THORNE, George D., 1st Lieut., New York, Headquarters 2d Military Area, New York.
TURNER, Isidore, 1st Lieut., South Fallsburg, N. Y., Headquarters 2d Military Area, New York.
VOGEL, Benjamin F., 1st Lieut., New York, Camp Livingston, La.
WEISER, Edward H., 1st Lieut., Brooklyn, Camp Forrest, Tenn.
ZUCKERBERG, Irving, 1st Lieut., Bayonne, N. J., Camp Shelby, Miss.

CORRECTION

Captain Graubard.—In the list of reserve officers ordered to active duty under the Second Corps Area in THE JOURNAL, April 12, page 1649, David J. Graubard was listed as a first lieutenant when he should have been listed as a captain.

SEVENTH CORPS AREA

The following additional medical reserve corps officers have been ordered to extended active duty by the Commanding General, Seventh Corps Area, which comprises the states of North Dakota, South Dakota, Minnesota, Nebraska, Iowa, Kansas, Missouri, Arkansas and Wyoming:

ALDERSON, Clair Milton, 1st Lieut., Dodge City, Kan., 53d Evacuation Hospital, Camp San Luis Obispo, Calif.
 AUCHARD, Virgil Marion, Major, Lawrence, Kan., 85th Field Artillery, Camp Roberts, Calif.
 BOSSINGHAM, Earl Nathaniel, Captain, Clarinda, Iowa, 153d Station Hospital, San Francisco.
 BUSHNELL, John William, Captain, Elk Point, S. D., Corps Area Service Command Induction Station, Fort Crook, Neb.
 CLARK, Bernard Stearns, 1st Lieut., Spearfish, S. D., Anti-Aircraft Artillery Regiment, Camp Haan, Riverside, Calif.
 COLE, Ward Martin, 1st Lieut., Wellington, Kan., Anti-Aircraft Artillery Regiment, Camp Haan, Riverside, Calif.
 COPE, Josef Shelton, Captain, Lexington, Mo., Corps Area Service Command Induction Station, Fort Leavenworth, Kan.
 DECICCO, Ralph, Captain, Des Moines, Iowa, 40th Field Artillery, Camp Roberts, Calif.
 DODDS, George Alfred, 1st Lieut., Valley City, N. D., 19th Coast Artillery, Fort Rosecrans, Calif.
 EDERER, John Joseph, 1st Lieut., Mahanomen, Minn., 9th Army Corps Troops, Fort Lewis, Wash.
 GAMET, Elmo Eugene, 1st Lieut., Lamoni, Iowa, 9th Army Corps Troops, Fort Lewis, Wash.
 GILMAN, Lloyd Clayton, 1st Lieut., Atwater, Minn., 3d Army Corps Troops, Fort Ord, Calif.
 HARTMANN, Clarence Melchior, 1st Lieut., Fairfax, Minn., 3d Army Corps Troops, Fort Ord, Calif.
 HATHAWAY, Stillman John, Captain, Proctor, Minn., 9th Army Corps Troops, Fort Lewis, Wash.
 JUMP, Walter Clinton, Captain, Kasson, Minn., 3d Army Corps Troops, Fort Ord, Calif.
 KUNCL, Joseph, Captain, Alliance, Neb., 47th Engineers Regiment, General Staff, Fort Ord, Calif.
 LEEHEY, Paul Joseph, 1st Lieut., Independence, Iowa, 47th Engineer Regiment, General Staff, Fort Ord, Calif.
 McCRAY, Raymond Vaughn, 1st Lieut., Malvern, Ark., Engineer Replacement Center Infirmary, Fort Leonard Wood, Mo.
 MOEN, Stanley Tamolyn, Captain, Hartley, Iowa, 53d Evacuation Hospital, Camp San Luis Obispo, Calif.
 MORIARTY, John Francis, 1st Lieut., Rock Rapids, Iowa, Corps Area Service Command Station Hospital, Fort Leonard Wood, Mo.
 MURPHY, Arlo Lewis, 1st Lieut., Fredericksburg, Iowa, Corps Area Service Command Induction Station, Jefferson Barracks, Mo.

NINTH CORPS AREA

The following additional medical reserve corps officers have been ordered to extended active duty by the Commanding General, Ninth Corps Area, which comprises the states of Washington, Montana, Oregon, Nevada, Utah, California and Idaho:

BERGSTROM, Brigham J., 1st Lieut., San Francisco, 1st Medical Regiment, Fort Ord, Calif.
 BERNSTEIN, Abraham, Major, San Francisco, Fort Winfield Scott, Calif.
 BERNSTEIN, Maxwell R., 1st Lieut., Pittsburg, Calif., 3d Army Corps, Presidio of Monterey, Calif.
 BLAND, Leland J., 1st Lieut., Tacoma, Wash., Northwest Air District, Fort George Wright, Wash.
 BUEHLER, George S., 1st Lieut., Whittier, Calif., 7th Division, Fort Ord, Calif.
 CHALIAN, Alexander R., 1st Lieut., Oakland, Calif., 1st Medical Regiment, Fort Ord, Calif.
 CHERNOW, Marvin L., 1st Lieut., Chico, Calif., 7th Division, Fort Ord, Calif.
 COCKS, Charles E., Captain, Oakland, Calif., Camp Roberts, Calif.
 COLLINS, James W., 1st Lieut., Modesto, Calif., 7th Division, Fort Ord, Calif.
 CORP, Keith W., 1st Lieut., Salinas, Calif., Corps Area Service Command, Fort Ord, Calif.
 COUNTER, Henry M., 1st Lieut., Buena Park, Calif., Camp Roberts, Calif.
 DAVIS, Barnard, Captain, San Francisco, Fort Winfield Scott, Calif.
 DODD, Abby M., Captain, Los Angeles, 155th Station Hospital, Camp Roberts, Calif.
 DOLEZAL, Joseph B., 1st Lieut., Battle Mountain, Nev., Station Hospital, Fort Lewis, Wash.
 EGAN, Albert R., 1st Lieut., San Diego, Calif., 9th Army Corps, Fort Lewis, Wash.
 FALK, Sidney M., 1st Lieut., Fresno, Calif., Corps Area Service Command, 1962, Fort Ord, Calif.
 FOLEY, William J., 1st Lieut., Larkspur, Calif., 41st Division, Camp Murray, Wash.
 HAYDEN, Wilber C., 1st Lieut., Tullake, Calif., 41st Division, Camp Murray, Wash.
 HENRICHSEN, Arthur L., 1st Lieut., Van Nuys, Calif., Camp Haan, Riverside, Calif.

MYER, Kermit Whitney, 1st Lieut., Sheldon, Iowa, Engineer Replacement Center Infirmary, Fort Leonard Wood, Mo.
 NIELSON, Arthur Lawrence, 1st Lieut., Harlan, Iowa, 85th Field Artillery, Camp Roberts, Calif.
 O'BRIEN, Louis Timothy, 1st Lieut., Wahpeton, N. D., 30th Field Artillery, Camp Roberts, Calif.
 OLSON, Grant Edmund, 1st Lieut., West Concord, Minn., 30th Field Artillery, Camp Roberts, Calif.
 OSTEN, Burdette Hubert, 1st Lieut., Northwood, Iowa, Corps Area Service Command Reception Center, Fort Snelling, Minn.
 PALMER, Harry Allen, 1st Lieut., Blackduck, Minn., Corps Area Service Command Reception Center, Fort Snelling, Minn.
 PALMERTON, Ernest Sterling, 1st Lieut., Albert Lea, Minn., 85th Field Artillery, Camp Roberts, Calif.
 PLATZ, John Herschel, Captain, Carrollton, Mo., 155th Station Hospital, Camp Roberts, Calif.
 POWER, Allyn Richard, 1st Lieut., Hot Springs, Ark., Corps Area Service Command Station Surgeon's Office, Fort Riley, Kan.
 ROLIG, David Howard, 1st Lieut., Howard Lake, Minn., Corps Area Service Command Reception Center, Jefferson Barracks, Mo.
 ROSENBAUM, Harry David, Captain, University City, Mo., Corps Area Service Command Induction Station, Fort Leavenworth, Kan.
 ROSENBERG, David Sam, 1st Lieut., Franklin, Neb., 56th Coast Artillery, Harbor Defenses, San Francisco.
 SCHAEFERLE, Lawrence George, 1st Lieut., Garwin, Iowa, Engineer Replacement Center Infirmary, Fort Leonard Wood, Mo.
 SCHNEIDER, Albert Leo, Captain, Brady, Neb., Corps Area Service Command Induction Station, Fort Snelling, Minn.
 SHARRAR, Lynn E., 1st Lieut., Lincoln, Neb., Anti-Aircraft Artillery Regiment, Camp Haan, Riverside, Calif.
 SHEPPARD, Julius Kelly, 1st Lieut., El Dorado, Ark., 35th Division, Camp J. T. Robinson, Ark.
 SIMONS, Leander Theodore, Captain, St. Paul, Corps Area Service Command Station Hospital, Fort Leonard Wood, Mo.
 SMITH, Lloyd Arthur, 1st Lieut., Balaton, Minn., 40th Field Artillery, Camp Roberts, Calif.
 STARR, Charles Mike, 1st Lieut., Larned, Kan., 40th Field Artillery, Camp Roberts, Calif.
 STAUCH, Martin Oscar, Major, Whiting, Iowa, 19th Coast Artillery, Fort Rosecrans, Calif.
 STERLING, Allen Fred, 1st Lieut., Norway, Iowa, eye, ear, nose and throat specialist Corps Area Service Command Induction Station, Jefferson Barracks, Mo.
 WADD, Clifford Theodore, 1st Lieut., Janesville, Minn., 166th Station Hospital, Harbor Defenses, San Diego, Calif.
 WEPFRICH, Michael Schall, 1st Lieut., Union, Mo., 6th Coast Artillery, Harbor Defenses, San Francisco.
 WHITNEY, Richard Aurie, 1st Lieut., Cambridge, Minn., 30th Field Artillery, Camp Roberts, Calif.

HERZOG, George K., Jr., 1st Lieut., San Francisco, Corps Area Service Command, Fort Ord, Calif.
 HILTY, Henry L., 1st Lieut., Los Angeles, 9th Army Corps, Fort Lewis, Wash.
 HIRSHBERG, Howard A., 1st Lieut., Los Angeles, Camp Roberts, Calif.
 JACOBS, Joseph J., 1st Lieut., San Francisco, Fort Winfield Scott, Calif.
 JAMENTZ, Albert H., Captain, Pasadena, Calif., Corps Area Service Command, 1962, Fort Ord, Calif.
 JOHNSON, Arthur F., 1st Lieut., Seattle, Station Hospital, Fort Lewis, Wash.
 JOHNSON, Vernal H., 1st Lieut., Ogden, Utah, 9th Army Corps, Fort Lewis, Wash.
 KENNEDY, William J., 1st Lieut., Oakland, Calif., 7th Division, Fort Ord, Calif.
 KUYKENDALL, John, 1st Lieut., Eugene, Ore., 203d General Hospital, Fort Lewis, Wash.
 KYLE, Charles L., Captain, Spokane, Wash., Camp Murray, Wash.
 LEVY, Sanford E., 1st Lieut., San Francisco, Station Hospital, Fort Lewis, Wash.
 MOURER, Lyle A., 1st Lieut., Los Angeles, 1st Medical Regiment, Fort Ord, Calif.
 NELSON, Hiram M., 1st Lieut., Barstow, Calif., 9th Army Corps, Fort Lewis, Wash.
 NORBERG, Raymond W., Captain, Kingsburg, Calif., 9th Army Corps, Fort Lewis, Wash.
 NORTON, John A., 1st Lieut., Santa Maria, Calif., 3d Army Corps, Presidio of Monterey, Calif.
 PIERCE, Wallace H., 1st Lieut., Cottonwood, Ida., 9th Army Corps, Fort Lewis, Wash.
 RADEMACHER, Clyde J., 1st Lieut., Bend, Ore., 9th Army Corps, Fort Lewis, Wash.
 RAFFERTY, Frank W., Captain, Astoria, Ore., Camp Murray, Wash.
 ROBINSON, Frank H., Captain, Chula Vista, Calif., Camp Murray, Wash.
 ROE, Harold E., Captain, Berkeley, Calif., Surgeon's Office, Headquarters 9th Corps Area.
 ROSENBLOOM, David, 1st Lieut., Los Angeles, Fort Rosecrans, Calif.
 ROSENGREEN, George E., 1st Lieut., Ogden, Utah, Station Hospital, Fort Lewis, Wash.
 ROSSER, Bernard H., 1st Lieut., Los Angeles, Corps Area Service Command, 1962, Fort Ord, Calif.
 SEARING, Donald H., Captain, Monmouth, Ore., 41st Division, Camp Murray, Wash.
 SICHERMAN, Karl L., Captain, Hollywood, Calif., 41st Division, Camp Murray, Wash.

SMITH, Leo D., Captain, Stockton, Calif., 1st Medical Regiment, Fort Ord, Calif.
STILLMAN, Freeman L., 1st Lieut., Ventura, Calif., 166th Station Hospital, Fort Rosecrans, Calif.
STOLFA, Laddie L., 1st Lieut., Los Angeles, Camp Roberts, Nacimient, Calif.

SUDDUTH, Leland F., 1st Lieut., Los Angeles, 3d Army Corps, Presidio of Monterey, Calif.
THALE, Harold B., 1st Lieut., Los Angeles, 9th Army Corps, Fort Lewis, Wash.
WYBORNEY, Eugene H., 1st Lieut., Arlington, Calif., Camp Roberts, Nacimient, Calif.

ORDERED TO FOREIGN DUTY

ARNOLD, George K., Captain, from Fort Crockett, Texas, to the Philippine Department, sailing from Charleston, June 23.
BAERS, Harry, 1st Lieut., Headquarters Hawaiian Department, Fort Shafter, Honolulu, Hawaii.
BERTRAM, Harold F., 1st Lieut., M. R. C., from Fort Sam Houston, Texas, to the Philippine Department, sailing from San Francisco, April 21.
BIVINS, Thomas E., 1st Lieut., from Fort Ord, Calif., to the Panama Canal Department, sailing from San Francisco, April 12.
BLOUNT, Robert E., Captain, from Philippine Department to Lovell General Hospital, Fort Devens, Mass.
BRANNAN, Max, 1st Lieut., from Orlando, Fla., to the Panama Canal Department, sailing from Charleston, April 12.
BRENNER, Frank Tallmadge, Jr., Captain, Quincy, Ill., Henry Barracks, Cayey, Puerto Rico.
BUCKHOLD, Wilbert W., 1st Lieut., M. R. C., from Fort Knox, Ky., to the Philippine Department, sailing from San Francisco, April 21.
BURGE, Julius C., Jr., 1st Lieut., M. R. C., from Camp Forrest, Tenn., to the Philippine Department, sailing from San Francisco, June 2.
CHASEN, William H., 1st Lieut., from Boston to the Hawaiian Department, sailing from New York, June 7.
COMSTOCK, Jack A., 1st Lieut., M. R. C., from Denver, to the Philippine Department, sailing from San Francisco, April 21.
CONE, Frank, 1st Lieut., M. R. C., from Fort Brown, Texas, to the Philippine Department, sailing from San Francisco, April 21.
DAILEY, Jeremiah Aloysius, Captain, Cranston, R. I., 11th Medical Regiment, Schofield Barracks, Honolulu, Hawaii.
DAVIS, John K., Captain, M. C., from Panama Canal Department to the Surgeon General's Office, Washington, D. C.
D'ALFONSO, Anthony Daniel, 1st Lieut., Philadelphia, Dispensary, Hickam Field, Hawaii.
DIESSNER, Warren H., Captain, prior orders amended, to Panama Canal, Balboa Heights, C. Z.
FRAWLEY, John T., 1st Lieut., M. R. C., prior orders amended: to Panama Canal Department, sailing from Charleston, S. C., June 14.
GILES, Robert W., 1st Lieut., prior orders amended, to Hawaiian Department, sailing from New York, April 1.
GOAD, Lloyd H., 1st Lieut., M. R. C., from El Paso, Texas, to the Philippine Department, sailing from San Francisco, April 21.
GOOD, Wealthy William, 1st Lieut., Ottawa, Kan., 11th Medical Regiment, Schofield Barracks, Honolulu, Hawaii.
GOULD, Lloyd E., Captain, from Panama Canal Department to Fitzsimons General Hospital, Denver.
HARRIS, Frank H., 1st Lieut., M. R. C., prior orders amended; sail from New York, April 8, for Hawaiian Department.
HEINBACH, Wilfred F., Jr., 1st Lieut., from Indiantown Gap, Pa., to the Philippine Department, sailing from San Francisco, April 21.
HERMES, Richard L., 1st Lieut., M. R. C., prior orders amended: to Air Corps, Puerto Rico.
HEWLETT, Thomas H., 1st Lieut., M. R. C., from Fort Knox, Ky., to the Philippine Department, sailing from San Francisco, April 21.
JOHNSON, George E., Major, M. R. C., from Camp Hulen, Texas, to the Philippine Department, sailing from San Francisco, April 21.
KATZ, Charles J., 1st Lieut., M. R. C., from Fort Bliss, Texas, to the Philippine Department, sailing from San Francisco, April 21.
KAUFFMAN, Nelson Niessen, 1st Lieut., Indianapolis, Headquarters, Philippine Department, Fort Santiago, Manila, Philippine Islands.
MARSICO, John, 1st Lieut., from Fort Knox, Ky., to the Philippine Department, sailing from New York, April 8.
KERR, Charles R., Major, M. R. C., from Fort Sam Houston, Texas, to the Philippine Department, sailing from San Francisco, April 21.
KESCHNER, Harold W., 1st Lieut., M. R. C., from Fort George G. Meade, Md., to the Philippine Department, sailing from San Francisco, April 21.

KYSOR, Benjamin B., Jr., 1st Lieut., M. R. C., from El Paso to the Philippine Department, sailing from San Francisco, April 21.
McKEE, Robert Doreck, 1st Lieut., Houston, Texas, Schofield Barracks, Honolulu, Hawaii.
MELINDER, Roy J., 1st Lieut., M. R. C., from Camp Barkeley, Texas, to the Philippine Department, sailing from San Francisco, April 21.
MICKEL, Arthur A., 1st Lieut., from Fort Ord, Calif., to the Philippine Department, sailing from San Francisco, April 26.
MILLER, Edward Simpson, 1st Lieut., M. R. C., from Camp Livingston, La., to the Philippine Department, sailing from San Francisco, June 2.
MORRISON, Marcus E., 1st Lieut., M. R. C., from Fort Hayes, Ohio, to the Hawaiian Department, sailing from San Francisco, May 17.
NASH, Louis R., 1st Lieut., M. R. C., from Fort Snelling, Minn., to the Philippine Department, sailing from San Francisco, April 21.
PAWOL, Sylvester E., 1st Lieut., from Camp Bowie, Texas, to the Panama Canal Department, sailing from Charleston, S. C., April 12.
PHARR, Percy P., 1st Lieut., from Fort Knox, Ky., to the Panama Canal Department, sailing from New York, April 10.
PLESSINGER, Virgil A., 1st Lieut., from Washington, D. C., to the Hawaiian Department, sailing from New York, June 21.
PORTER, Robert F., 1st Lieut., from Fort Knox, Ky., to the Panama Canal Department, sailing from New York, April 10.
ROBINSON, Donald W., 1st Lieut., M. R. C., from Denver to the Philippine Department, sailing from San Francisco, April 21.
RUBIN, Myron Michael, 1st Lieut., Brooklyn, 11th Medical Regiment, Schofield Barracks, Honolulu, Hawaii.
SABIN, Howard Q., 1st Lieut., M. R. C., from Fort Hancock, N. J., to the Philippine Department, sailing April 21.
SCHNELLER, Oscar, Captain, from Lakeland, Fla., to Panama Canal Department, sailing from Charleston, S. C., May 3.
SCHULTZ, Frank B., Captain, M. R. C., from Fort George G. Meade, Md., to the Hawaiian Department, sailing from San Francisco, June 2.
SHAW, Vaughan A., 1st Lieut., from Camp Blanding, Fla., to the Philippine Department, sailing from San Francisco, April 21.
SMITH, Donald H., 1st Lieut., M. R. C., from Fort Bliss, Texas, to the Philippine Department, sailing from San Francisco, April 21.
STINSON, Charles L., 1st Lieut., M. R. C., from Puerto Rican Department to Port of Embarkation, Brooklyn.
SWANSON, Wendell F., Captain, from Fort Knox, Ky., to the Philippine Department, sailing from Charleston, S. C., June 21.
TEMPLE, Francis F., 1st Lieut., M. R. C., from Fort Adams, R. I., to the Puerto Rican Department, sailing May 8.
TOUSIGNANT, Albert N., Captain, M. R. C., from Fort Bliss, Texas, to the Philippine Department, sailing from San Francisco, April 21.
TREMAINE, Jay E., 1st Lieut., M. R. C., from El Paso to the Philippine Department, sailing from San Francisco, April 21.
VAN WAGONER, Frank H., Captain, from the Hawaiian Department to the Office of the Surgeon General, Washington, D. C.
WALLACE, John K., II, 1st Lieut., from Camp Claiborne, La., to the Philippine Department, sailing from San Francisco, April 21.
WEINSTEIN, Alfred A., Captain, M. R. C., prior orders amended, to the Philippine Department, sailing from San Francisco, June 2.
WHITFLEY, Robert K., 1st Lieut., M. R. C., from Fort Sheridan, Ill., to the Philippine Department, sailing April 21.
WILSON, Charles H., Major, from Camp Blanding, Fla., to the Philippine Department, sailing from San Francisco, April 21.
WILSON, William E., 1st Lieut., M. R. C., from Camp Joseph T. Robinson, Ark., to the Philippine Department, sailing from San Francisco, April 21.
ZALIN, Jacob, 1st Lieut., M. R. C., from Fort Jackson, S. C., to the Philippine Department, sailing from San Francisco, June 2.

NAVAL RESERVE OFFICERS ON ACTIVE DUTY

The following medical officers of the U. S. Naval Reserve have reported for active duty since April 24, 1941:

AGREST, Francis A., Lieut. (j. g.), M. C.-V. (G.), Brooklyn, Fleet Marine Force, Quantico, Va.
AUSTER, Lionel S., New York, Lieut. Comdr., M. C.-V. (S.), Naval Hospital, Brooklyn.
BENSON, Martin H., Lieut., M. C.-V. (S.), Lubbock, Texas, Marine Recruiting Station, Dallas, Texas.
BOLTON, Robert M., Lieut. Comdr., M. C.-V. (S.), Washington, D. C., Naval Dispensary, Navy Department, Washington, D. C.
BUTLER, George L., Lieut. (j. g.), M. C.-V. (S.), Beaumont, Texas, Naval Air Station, Corpus Christi, Texas.
CAREY, John E., Lieut. (j. g.), M. C.-V. (G.), Buffalo, Naval Training Station, Newport, R. I.
CORBOY, Philip M. J., Lieut., M. C.-V. (S.), Valparaiso, Ind., Naval Hospital, Great Lakes, Ill.
DENMAN, Byford H., Lieut., M. C.-V. (S.), Houston, Texas, Merchant Marine Reserve Unit, Port Arthur, Texas.
DOBBS, Lee F., Jr., Huntington, W. Va., Lieut. (j. g.), M. C.-V. (G.), Naval Air Station, Pensacola, Fla.

EBELING, Walter W., Mount Vernon, Wash., Lieut., M. C.-V. (S.), Naval Hospital, Puget Sound, Wash.
ENKELIS, Jacob J., Portland, Ore., Lieut. Comdr., M. C.-V. (S.), Navy Recruiting Station, Portland, Ore.
EWING, John P., Lieut., M. C.-V. (S.), Los Angeles, Naval Dispensary, Long Beach, Calif.
FARNSWORTH, Dana L., Lieut., M. C.-V. (S.), Williamstown, Mass., Naval Hospital, Philadelphia.
FORBES, Wilfred W., Brookline, Mass., Lieut. (j. g.), M. C.-V. (G.), Naval Hospital, Newport, R. I.
GARDNER, Julius Stanley, Lakewood, Ohio, Lieut. Comdr., M. C.-V. (S.), Naval Hospital, Great Lake, Ill.
GLENN, Wadley R., Atlanta, Ga., Lieut., M. C.-V. (S.), Naval Reserve Air Base, Atlanta, Ga.
GOODLOE, Noble M., Lieut. (j. g.), M. C.-V. (S.), Houston, Texas, Naval Air Station, Corpus Christi, Texas.
GOODMAN, Moses, Brooklyn, Lieut. Comdr., M. C.-V. (S.), Naval Reserve Air Base, Brooklyn.
GROHOWSKI, Alphonus L., Lieut. (j. g.), M. C.-V. (G.), Sugar Notch, Pa., Fleet Marine Force, Quantico, Va.

GUERNSEY, Paul F., Los Angeles, Lieut. Comdr., M. C.-V. (S.), Naval Hospital, San Diego, Calif.
 HARRIS, Joseph H., Medical Lake, Wash., Lieut. (j. g.), M. C.-V. (G.), Fleet Marine Force, Quantico, Va.
 HARRIS, Maxwell J., Carthage, Mo., Lieut. (j. g.), M. C.-V. (S.), Naval Training Station, Great Lakes, Ill.
 HAYES, John J., Fort Wayne, Ind., Lieut., M. C.-V. (S.), Norfolk Naval Hospital, Portsmouth, Va.
 HAZZARD, Charles T., New York, Lieut., M. C.-V. (S.), Naval Hospital, Brooklyn.
 HELMKAMP, George F., Lieut., M. C.-V. (G.), Los Angeles, Naval Dispensary, Long Beach, Calif.
 HENDERSON, Jesse L., Lieut. Comdr., M. C.-V. (S.), Pasadena, Calif., Naval Hospital, Great Lakes, Ill.
 HIGGINS, Clinton K., St. Louis, Lieut. Comdr., M. C.-V. (S.), Naval Hospital, Great Lakes, Ill.
 JAMES, Audra D., Des Moines, Iowa, Lieut. Comdr., M. C.-V. (S.), Naval Hospital, Great Lakes, Ill.
 JARVIS, James A., Kansas City, Mo., Lieut., M. C.-V. (S.), Marine Recruiting Station, Kansas City, Mo.
 KAPLAN, Harry E., Los Angeles, Lieut. Comdr., M. C.-V. (S.), Naval Dispensary, Long Beach, Calif.
 KEENAN, Peter J., Lieut. (j. g.), M. C.-V. (S.), San Francisco, Naval Hospital, Mare Island, Calif.
 KLEIN, Elmer, Lieut. Comdr., M. C.-V. (S.), Washington, D. C., Naval Dispensary, Navy Department, Washington, D. C.
 MCCARTHY, Horace F., Lawrence, Mass., Lieut. (j. g.), M. C.-V. (S.), Navy Yard, Portsmouth, N. H.
 MCCREARY, Pegram L., Lieut., M. C.-V. (S.), Lake Charles, La., Naval Air Station, Corpus Christi, Texas.
 MACDONALD, Donald H., Boston, Lieut., M. C.-V. (S.), Naval Hospital, Newport, R. I.

MARTIN, John P., Lieut. (j. g.), M. C.-V. (G.), Camden, Del., Naval Hospital, Philadelphia.
 MAZET, Robert, Jr., Washington, D. C., Lieut., M. C.-V. (S.), Marine Recruiting Station, St. Louis.
 MERRILL, Whitman, Washington, D. C., Lieut., M. C.-V. (S.), Naval Hospital, Pensacola, Fla.
 MOSS, Leland C., Lieut. Comdr., M. C.-V. (S.), Washington, D. C., Naval Dispensary, Navy Department, Washington, D. C.
 MUNDELL, Benjamin J., Lieut. (j. g.), M. C.-V. (S.), Washington, D. C., Naval Dispensary, Navy Department, Washington, D. C.
 OLSEN, Richard E., Pontiac, Mich., Lieut. (j. g.), M. C.-V. (S.), Naval Hospital, Great Lakes, Ill.
 POMEROY, Rex K., Port Washington, Wis., Lieut., M. C.-V. (S.), Naval Training Station, Great Lakes, Ill.
 POWERS, William L., Lieut. (j. g.), M. C.-V. (S.), Wichita Falls, Texas, Naval Air Station, Corpus Christi, Texas.
 REYNOLDS, Chester L., Rochester, N. Y., Lieut. (j. g.), M. C.-V. (S.), Naval Hospital, Parris Island, S. C.
 RYAN, Clark D., Los Angeles, Lieut. Comdr., M. C.-V. (S.), Naval Hospital, San Diego, Calif.
 SCARCELLO, Nicholas S., Worcester, Mass., Lieut., M. C.-V. (S.), Naval Hospital, Chelsea, Mass.
 STEWART, Franz H. von S., Lieut. (j. g.), M. C.-V. (S.), Miami, Fla., Naval Air Station, Miami, Fla.
 WEBER, Walter M., Lieut. (j. g.), M. C.-V. (S.), San Francisco, Navy Yard, Mare Island, Calif.
 WERDEN, Delbert H., Lieut., M. C.-V. (S.), San Diego, Calif., Naval Hospital, San Diego, Calif.
 YAVORSKY, William D., Lieut. (j. g.), M. C.-V. (G.), Cedar Rapids, Iowa, Marine Recruiting Station, Des Moines, Iowa.
 YOUNG, John C., Asheville, N. C., Lieut. Comdr., M. C.-V. (S.), Naval Hospital, Parris Island, S. C.

NATIONAL NUTRITION CONFERENCE FOR DEFENSE

Five hundred persons interested in nutrition have been invited by Federal Security Administrator Paul V. McNutt to attend a National Nutrition Conference for Defense called by the President to be held at the Hotel Mayflower, Washington, D. C., May 26-28. The purpose of the conference is to assist in the formulation of a national nutrition policy and in the organization of a program of action. General sessions will be held each morning, and section meetings in the afternoons and evenings. Among speakers who are expected to address the conference are Vice President Henry A. Wallace, Secretary of Agriculture Claude R. Wickard, Assistant Secretary of State Adolf A. Berle Jr., Surgeon General Thomas Parran of the U. S. Public Health Service and Mr. McNutt.

EXAMINATIONS FOR APPOINTMENTS IN MEDICAL CORPS OF NAVY

The next examination for appointments as assistant surgeon, U. S. Navy (lieutenant [junior grade], Medical Corps, U. S. Navy) will be held at all major Medical Department activities on August 11 to 15 inclusive. Applications for this examination must be in the Bureau of Medicine and Surgery not later than July 15.

Applicants for appointment as assistant surgeon must be citizens of the United States, more than 21 but less than 32 years of age at the time of acceptance of appointment, and graduates of a class A medical school who have completed at least one year of intern training in a hospital accredited for intern training by the Council on Medical Education and Hospitals of the American Medical Association.

A circular of information listing physical and other requirements for appointment, subjects in which applicants are examined, application forms and other data pertaining to salary, allowances and so on may be obtained from the Bureau of Medicine and Surgery, Navy Department, Washington, D. C., on request.

An examination for appointment as acting assistant surgeon for intern training in naval hospitals accredited for intern training by the Council on Medical Education and Hospitals will be held at all major Medical Department activities on June 23 to 26 inclusive. Students in class A medical schools who will complete their medical education this year are eligible to apply for these appointments.

Students in class A medical schools who will have completed their third year of medical education this year are eligible to take this examination and, if successful, will receive their

appointments on or about July 1, 1942, after they have completed their medical education.

Applicants for appointment as acting assistant surgeon for intern training must be citizens of the United States, more than 21 but less than 32 years of age at the time of acceptance of appointment. Acting assistant surgeons are appointed for a period of eighteen months. After the appointee has served as an intern in a naval hospital for twelve months he is eligible for and may take the examination for appointment as assistant surgeon, U. S. Navy.

A circular of information listing physical and other requirements for appointment as acting assistant surgeon, subjects in which applicants are examined, application forms and so on may be obtained from the Bureau of Medicine and Surgery, Navy Department, Washington, D. C., on request.

Assistant surgeons and acting assistant surgeons for intern training are appointed in the rank of lieutenant (junior grade), Medical Corps, U. S. Navy. The pay and allowances for an officer of this rank total \$2,699 a year if he has no dependents and \$3,158 a year if he is married or has dependents.

GUARDING THE SUPPLY OF HELIUM

The U. S. government's helium plant in Texas is the world's sole producer of helium. About 15 per cent of the output of the plant is sold for medical, scientific and commercial use, the other 85 per cent of the output being supplied directly to the government. At the current rate of production this plant will produce by the end of the fiscal year about 14,000,000 cubic feet of helium. The plant has produced more than 110,000,000 cubic feet of helium since it began operations about twelve years ago. There are proposals now in Congress to increase both the well and the plant capacity. Measures are being taken to insure that no interruption in operation shall occur. Dr. R. R. Sayers, director of the Bureau of Mines, reported to the Secretary of the Interior that steel guard towers are being constructed at strategic points. A tower is being erected also in the gas field from which a general view of the government's helium properties can be obtained.

REGULAR MEETING AT NAVAL SCHOOL

At the regular monthly meeting of the medical officers of the navy in the District of Columbia at the Navy Medical School, April 7, Dr. Henry L. Bockus, Philadelphia, spoke on "Liver Function Tests in the Diagnosis and Management of Jaundice."

ORGANIZATION SECTION

AMERICAN MEDICAL ASSOCIATION ON TRIAL

THE TRIAL OF THE CASE OF THE UNITED STATES OF AMERICA
VS.

THE AMERICAN MEDICAL ASSOCIATION, A CORPORATION, THE MEDICAL SOCIETY OF THE DISTRICT OF COLUMBIA, A CORPORATION, THE HARRIS COUNTY MEDICAL SOCIETY, AN ASSOCIATION, THE WASHINGTON ACADEMY OF SURGERY, AN ASSOCIATION, ARTHUR CARLISLE CHRISTIE, COURSEN BAXTER CONKLIN, JAMES BAYARD GREGG CUSTIS, WILLIAM DICK CUTTER, MORRIS FISHBEIN, THOMAS ALLEN GROOVER (DECEASED), ROBERT ARTHUR HOOE, ROSCO GENUNG LELAND, THOMAS ERNEST MATTINGLY, LEON ALPHONSE MARTEL, FRANCIS XAVIER MCGOVERN, THOMAS EDWIN NEILL, EDWARD HIRAM REEDE, WILLIAM MERCER SPRIGG, WILLIAM JOSEPH STANTON, JOHN OGLE WARFIELD JR., OLIN WEST, PRENTISS WILLSON, WILLIAM CREIGHTON WOODWARD, WALLACE MASON YATER, JOSEPH ROGERS YOUNG.

(Continued from page 2200)

APRIL 2—MORNING

OPENING ARGUMENT TO THE JURY ON BEHALF OF THE UNITED STATES

MR. JOHN H. LEWIN

Mr. Lewin:—May it please the Court, and ladies and gentlemen of the jury: The time has now come when you must listen to what is known as the summing up of the evidence from counsel on both sides of the case, and after a long two months trial I don't know how to be more helpful to you at the start than to state what I believe is the issue, the narrow issue of fact which you are called on to decide; and I conceive that issue to be: Did the defendants, the two corporations and the eighteen individuals, plan together or plan to take action together to restrain and hinder the activities of this cooperative medical group association by:

1. Enforcing rules and regulations designed to prevent doctors, including members of the defendant societies from joining Group Health, or from consulting with Group Health, or having anything to do with it, and

2. By inducing the private independent hospitals, otherwise independent institutions, to join with them in preventing Group Health Association from having a chance even to get courtesy staff privileges at those independent hospitals.

Now, I think I can further emphasize that narrow issue of fact, as to which there can be only one answer beyond a reasonable doubt, by stating what issues are not before the jury. Group Health Association is not on trial, and whatever faults it may have had, of its own making or by reason of the restraints imposed on it, are not to be criticized here or questioned. This is not a private suit between Group Health Association, on the one hand, and these doctors on the other; and the comparative merits of the two, and their two methods of distributing medical service, are not in issue. This is a case between the United States of America on the one hand and the defendants on the other, brought not because of an offense against Group Health but because of an offense against the Federal law: The Federal law that prescribes the conduct that anybody must live up to, high or low, who engages in a controversy with his competitors. Ladies and gentlemen of the jury, this is not a case—whatever insinuations may be made to the contrary—against all doctors, or against the medical profession as a whole. The Grand Jury, after deliberation, indicted these doctors, not all doctors, and two corporations whose members happen to be doctors, and these individuals who happen to be doctors, not because they were doctors but because it is charged that they entered into specific conduct and took specific action. This is not a case to vindicate or sponsor any particular form of medical care or the distribution of medical care. It is simply to vindicate the natural law that any citizen has, unhampered by boycotts and oppression, to find that form of distribution of medical care that suits him.

And you need not, I say, assume the responsibility which the Government has not assumed, to attempt to determine the merits or the demerits of any particular form of medical care. The issue here is that whatever that form, the people who adopted it were entitled to pursue it without boycotts and restraint against it.

And this is not a case to force anybody to like Group Health Association. All of us, including the doctors, have a perfect right to like or dislike it, as they please; and the only point is that their animosity, and their dislike, must not be carried to the extent where they put into operation something which restrains the normal right of people and organizations which they dislike. And, so they may disapprove, so anybody may disapprove Group Health Association, provided that disapproval does not bring into effect a rule which forbids, or which requires a course of conduct which oppresses the persons disapproved. And so, I return again to the narrow issue, with these false issues brushed aside: Did the defendants do more than disapprove Group Health Association? Did they attempt a plan to obstruct its successful operation, by preventing doctors, including their own eight hundred thirty doctors, from having anything to do with Group Health Association, whether they wanted to or not; and by inducing these private hospitals, who otherwise would have made up their minds independently, perhaps with advice, but who would have taken independent action, with that plan to induce these hospitals, not to exercise their own, independent judgment; not to require adherence to reasonable regulations, but the behest of the defendants imposed on them; and I submit, ladies and gentlemen, in all fairness, that that issue of fact can be answered in only one way, and that is in the affirmative. And why do I say that? I say that because the evidence in this case answers that question over and over again, and it is the best evidence that could be produced, unimpeached and unimpeachable evidence; documentary evidence, contemporaneously written with the happening of the event, as a record of it; evidence contained in minutes and records proceeding from the mouths of the defendants themselves, written and recorded when their conduct was not drawn in question in any regard, and not qualified here in any substantial degree because you, I am sure, will remember defense witness after defense witness took that stand and simply reaffirmed the Government's evidence by saying that the document was written, and it meant what it said.

Now, let us come to Group Health Association for a moment. What was it? It was a nonprofit, mutually beneficial, cooperative, launched by its well meaning, altruistic sponsors, with no profit or gain to themselves, to do two reasonable things: to give their members medical care at less cost by the advantages of group practice, as to which there certainly could be no objection, and the chance to budget their family expenses for medical care by small prepayments of dues, so they could spread that cost over a period of time and over a group of people; and if those things aren't unreasonable, how could they be unreasonable in combination? And that is what it was, and it was nothing more than a plan to do that sort of thing throughout most of '37, and throughout '38, down to the very fall, it was simply trying to get started. It had no organization, no personnel, no activities. There could be no question of the quality of its medical care, because it was giving none,

no medical care; and yet during that time this boycott was conceived and plotted against it, plotted against it because of those two ideals it had—the group practice idea and the prepayment budget idea.

Now, it needed a chance to get in the hospitals. It had no right to demand of any hospital that it be taken in, and this case is not to force the demand of any person to insist that the hospital take them in; rather it is to vindicate the free independence of a hospital to make that decision for itself, on the advice, if you please, of its medical staff, but advice that should be confined to the medical standpoint of the applicant.

What was the hospital situation? There were twelve private hospitals, and only twelve, Group Health could turn to. It wanted a chance to state its case and negotiate with these hospitals freely and independently, and get the hospitals' own determination, but the medical staffs—the attending or regular staffs of those hospitals—were almost entirely composed of members of the defendant's society, so you start with that measure of control. They sought application to the courtesy staffs and it is true that a great many of the courtesy staffs were members of the District Medical Society, but up to that time ten of them had no rule that in order to become a member of the courtesy staff you must be a member of the District Medical Society, and the A. M. A. You will see later how that rule came about, and the purposes for which it was adopted, but ten of them had no such rule. Casualty had a rule that you must be qualified for membership in the District Medical Society, and Emergency, the only one that had the rule prior to this conspiracy, had not enforced it; and you will see it took steps to enforce it strictly against Group Health Association. You will see later how, through the activities of the A. M. A., acting through the defendant Cutter, and the activities of the defendant Warfield and his committee, operating under authority from the District Medical Society, all of those hospitals during this conspiracy, and for the purpose of preventing Group Health doctors—not simply Selders, but any of them—from getting into the hospitals, adopted that rule which was known as the Mundt Resolution, that their courtesy staffs must be confined to members of the District Medical Society, and I will discuss that later.

Now, what was the machinery that the defendants had at hand? Well, they had this resolution; they had this part of their constitution:

"Members shall not accept appointment to, or otherwise continue to serve upon medical staffs of any hospital which is not approved by the Society."

Now, what did that mean? It meant that if they denied approval to any hospital, for any capricious reason they pleased, stated or unstated, disclosed or undisclosed, not one of its eight hundred thirty doctors could have anything to do with that hospital. It gave them a power, for any reason they pleased, practically to unstaff and ruin any hospital they chose. This is not fanciful, because you will see in the evidence it is not theoretical, but it was resorted to.

And then they had another way. Section 5, amended March 3, 1937. Before that time it applied to private organizations. Now, they made it apply to Group Health.

"No member of the Society shall engage in any professional capacity with any organization, group, or individual, by whatever name called or however organized, engaged in the practice of medicine within the District of Columbia or within ten miles thereof, which has not been approved by the Society."

There again. Withdraw or withhold approval for any reason they pleased, stated or unstated, disclosed or undisclosed; and, presto, eight hundred thirty must quit. Is that boycott? And they left that approval, not simply to the District Medical Society, but to its executive committee so that the executive committee had the power, by simply putting the finger on any one it chose to withdraw this entire group of professional men from having anything whatsoever to do with it. And on June 1, 1937 Group Health Association had no activities, and no medical personnel, but one medical director. A prominent member of the executive committee of the defendant corporation suggested the use of that machinery. He said they had two weapons at hand, and I am quoting.

"One, forbid consultation, and

"Two, withhold approval of any hospital that would take any cases or assist the movement in any way."

Weapons: Does that sound like affirmative opposition being planned as early as June 1, 1937? And he repeats it more strongly to the executive committee on June 21. He says there are two ways. Two ways of doing what? Of persuading

that Group Health is a bad idea? Two ways of combating, combating Group Health Association:

"One, discipline our own members who undertook to participate, and
"Two, the possibility of doing something to recalcitrant hospitals through pressure of their staffs."

Does this throw any light on that narrow issue? "On their staffs." "Through pressure on their staffs." And how was this done? You will remember the witness Macatee. This is one of the little bits of significant evidence. He did not deny making those suggestions. Here is what he said, and I quote:

"The record would have to be clarified by my conviction that so far as the Medical Society itself could proceed in this or any similar circumstances it would have to be limited by its own constitution and by-laws, and what it could do under the constitution and by-laws in disciplining its members if they should become involved adversely with any provisions of the constitution and by-laws, and that so far as hospitals were concerned, we should only exert an influence through our own members so far as that might go."

His own members. His own members dominating the staffs of the hospitals; and doesn't that qualification leave those two suggestions exactly where we found them in the first instance, with the minutes, unchallenged, through June and July, showing particular interest on the part of a number of the defendants as to how Group Health would get hospital privileges?

Hooe pointedly asks Brown—he was the medical director of Group Health—if Group Health could function with hospitals and hospitalization left out.

Bennett pointed out that some hospitals require courtesy staffs to be A. M. A. members and suggested that Brown's cooperation with the Medical Society would be important, and he suggested that these facts be brought to the attention of the rest of the board.

Willson and McGovern discussed the same subject July 29. On July 12, the first day action was taken on this approved list, after its adoption, which omitted G. H. A., and that approved list was amended so that there would be no doubt that it didn't carry approval of G. H. A., because one of the categories approved were doctors connected with the Government, and the argument might have been made that Group Health, under their contention, Group Health doctors were connected with the Government—they changed it so there could be no doubt that Group Health would be left off. At that very meeting action was taken for the first time under this machinery of section 5, amended in March, with a committee headed by McGovern, and with Hooe, reported to the executive committee, and this report is adopted by this committee, given to the executive committee, and the executive committee tables it for further consideration, and you will see it received it. This language appears:

"The doctors of Group Health Association"—I am quoting now—"will probably surely fail to be put on the courtesy list of the hospitals for one reason or another without the fact of his connection with the cooperative being even mentioned. In fact, any combative method would necessarily have to be camouflaged to the nth degree."

Ladies and gentlemen, will you bear that in mind when you hear these far fetched excuses for the rejection of all the Group Health doctors, some of which there isn't any question as to their qualifications, and when you hear these excuses bear in mind the suggestion of the committee, "Hold for further consideration," and that they

"could easily fail to be put on the courtesy list of the hospitals for one reason or another without the fact of his connection with a cooperative even being mentioned. In fact, any combative methods would necessarily have to be camouflaged to the nth degree."

And on July 26 when the committee met with representatives of Group Health their spokesman points out again their so-called principles of ethics, intending people to believe that they were principles of morals but really principles of economic conduct gotten up to condemn a competitive system of distributing medical care; gotten up by that branch of the A. M. A., which is nothing but a business protective association. And he points out those economic rules and, significantly, calls their attention to the fact that they would make them unethical, and that the same would hold true—and I quote:

"As regards the necessary contacts in the local hospitals, for your hospitalization would have to be cared for,"

and they then tried to persuade Group Health not to go on. And then on July 29 this approved list, this white list, omitting G. H. A.—the first one ever issued—is issued by the Society and with it go two letters of the defendant Conklin, and it is authorized to go not only to their own members but to these independent hospitals as a suggestion as to what they

must do, and one of the letters says, calls attention to "organization or organizations interested in gaining medical personnel." Macatee, on that stand, corroborated these facts, which is all too apparent, that that organization was Group Health Association, interested in gaining medical personnel; and here was a word to the wise, that they must not get personnel and not have a chance even to deal with the local private hospitals on a fair, man-to-man, honorable basis.

And there is evidence that the hospitals took it to heart. In August the president of Sibley Memorial Hospital replies to this letter, acknowledging its receipt, that is of the white list, and says:

"Its provisions will be carried out by this institution."

Now, what was the A. M. A., the parent body, doing all this time? Just as soon as they heard of it, they condemned it as unethical; they used this horrible word which a normal man might suppose was a charge of immorality. As their past president defined it, the conduct of a gentleman, observing the golden rule, the Ten Commandments. Certainly there was nothing like that involved here, and they sent posthaste from Chicago to Washington their three big men, their full salaried men, their doctor general manager West, their Dr. Cutter, and their doctor lawyer. What to do? Simply to get information? The resolution under which they came showed they were to advise the District Medical Society, and the evidence shows that they did so. And then the Trustees of the American Medical Association, alarmed by this competition, instructs the defendants Fishbein and West, their doctor journalist and doctor general manager, to bring the situation to the attention of the entire medical profession, and an article is to be written, to be published in *THE JOURNAL* and distributed among their one hundred and ten thousand doctors.

That article was more than informative. It was a dynamic thing. It was intended to carry, and it did carry, a message to shape their conduct. I quote from it. And it was being prepared all through the summer of 1937:

"As the members of the salaried staff of the Association are likely to be looked on by the profession generally in the community as on the outer verge of ethical practice, if not altogether beyond the pale, it is not clear how they are to obtain qualified consultants or procure hospital service for their patients.

"In any event, medical service under the Association would be likely to be handicapped by difficulty likely to be experienced in obtaining the best consultant service and hospital accommodations. Physicians who sell their services to an organization like Group Health Association for resale to patients are likely to lose professional status."

Not only were those suggestions expressed perfectly clear, but the implications were clear too and they were:

1. Regard G. H. A. as unethical and hope people will believe that is a dirty charge of immorality; that it is conduct unbecoming a gentleman, in violation of the Ten Commandments and golden rule; but really the economic object of these people, unchallenged by free thought and free action.

2. Put its doctors beyond the pale. Qualified and unqualified, men like Scandifio and Hurlbut and Lee, and all the others as to whom there is no question concerning their abilities.

3. Refuse to deal or consult with them, and refuse to let them treat their Group Health patients in hospitals.

Those are the implications and the authors so intended them. They sent it not only here to Washington but to Maryland and Virginia for action by those societies, and the letter accompanying urges them to take an active part in the contest, and it refers to the article as "useful in any cooperative work you may undertake"; nor was the purpose of those suggestions lost on the District Medical Society, or its members. On September 27 a resolution was offered that the District Medical Society be admonished to read the entire article for their information and guidance. Nor were these implications lost on the parties they were intended to impress. On October 6 a resolution was adopted by the executive committee reciting that the District Medical Society is in full accord with the contents of said reports, both as to the established facts set forth therein—and they were very few—as you will remember, the author said: "and the implications drawn therefrom"; and then resolved that the Society

"cause a copy of said report to be sent to each of its members as an indication of its future policies with respect to combating the activities of said Group Health Association."

And that resolution was offered by one of the persons named defendant, seconded by Dr. McGovern, and adopted by the full Society. And that the implications that I have suggested were then intended is shown by the fact that the author of that resolution, when he stated that the implications were clear, pointed to those very excerpts from that article which I have

read this morning. Now, the white list had gone out in July, and its purpose and its intent and effect perfectly clear, but so exercised were the defendants they wanted assurances doubly sure, so in the fall of 1937 the defendants were afraid that its meaning might not be sufficiently clear to the hospitals, or that the hospitals might disregard it, and the defendant Hooe suggests on Oct. 11, 1937, that a letter be sent to the directors of each of these hospitals warning them—get that word "warning" them—I quote:

"that if they failed to cooperate in every way they might not be on the approved list."

And at that meeting of the executive committee, a letter, prepared by the defendant Sprigg, was recommended to go to each of the hospitals, and it recited the provision of the constitution that I have read to you: that no member could have anything to do with a hospital not approved, and no member could have anything to do with any organization practicing medicine not approved by them, reciting both those sections; and then it called on those hospitals for cooperation.

The evidence is perfectly clear that that suggested letter was aimed at Group Health Association. There can be no doubt about it, and now I read this excerpt from the minutes as to the effect that letter was intended to have:

"One member would inquire if it was meant that members of the Society would not be permitted to practice in a hospital that did not subscribe to any approved list; in other words, if they attempt to practice in a hospital not approved by the Society the members of the Society would be duty bound to keep clear of that hospital,"

and the defendant Sprigg, the chairman of the executive committee, the man who had prepared the letter, answered that that interpretation was correct.

It is a threat to unstaff unless "you do what we tell you to do." The high point, I think, in all this plotting, was reached when this defendant then said that the Society requires—and I quote—

"merely that a man to practice in the District of Columbia must be approved by the Society."

What has happened to the law? What has happened to licensure? Because it is clear that they recognize that a man cannot practice his profession if he is barred from consultation if the epithet "unethical" is hurled at him, and if he cannot even get a chance to get in the hospitals on his own merits. No, he cannot practice in the District of Columbia, cut off absolutely from a chance to make a living unless he is approved by this private corporation. Haven't things come to a sorry pass?

He then referred to the doctors on the approved list and said, and I quote:

"This letter doesn't keep those men out of the hospitals."

Those that get on these lists: they can get in the hospitals. All right, don't keep them out. They must contend with all the powers of tyranny, when Scandifio, Lee and Hurlbut and the rest cannot practice their profession in the District of Columbia.

And then on November 6 a committee of the District of Columbia goes out to Chicago and gets further aid and comfort. When they get there it is Dr. McGovern and Dr. Hooe telling West and Woodward what they came for, and they quote the very resolution in pursuance of which they come, the Stanton Resolution, and they recite from that resolution that it is the duty of the American Medical Association—what to do? Argue, persuade, debate? Oh, no. To oppose immediately with all its might—and I tell you they are calling on great might—Group Health Association, and then, quoting again from that resolution:

"It is the opinion of the Medical Society of the District of Columbia that it is the duty of the A. M. A.—"

what to do? To gather information? To disseminate it to people who inquire for it?

"—to combat vigorously Group Health Association."

At this meeting West assures them that the Trustees of the A. M. A. have given certain instructions. And what were they? "Instructions to oppose it." He says the A. M. A. has not exhausted all its means and it has no idea of quitting, and I quote again:

"It will continue fighting it every way we can."

It was not necessary for the defendants to go to Chicago and have this talk, because the A. M. A., as it boasted itself, had already been in this plan of oppression even before the

District Medical Society got very active, because West wrote to Poling on December 4:

"The A. M. A. has done everything that it could do to oppose the organization and the operation of the Group Health Association in the District of Columbia. The A. M. A. became active in this matter before the Medical Society of the District of Columbia began its efforts in opposition."

And in that letter is given other reasons as to whether this evidence had anything to do with the conduct of gentlemen who observed the golden rule and the Ten Commandments, and it is this:

"That if Group Health is successful." That is what they feared. Not that it will be unsuccessful. "—the private practice of medicine in the city of Washington will be largely destroyed."

And at this same meeting the delegates from Washington bring to the A. M. A.'s attention this hospital situation. They tell them that the executive committee has recommended that a letter be addressed to the medical boards of the various hospitals calling attention to H. O. L. C., and insisting that the hospitals take notice of it and, among other things, calling attention to the fact that physicians employed by such groups are not acceptable to the Medical Society of the District of Columbia; and in reply to Dr. McGovern's question as to whether they might control the hospitals West merely expresses his opinion that there is some doubt about it, and he is recorded as saying, "It is reasonable that they should do it."

Now, I ask you, ladies and gentlemen, if those statements of the defendant West which I have read, and there are other statements like it in the record, are consistent or compatible with his testimony on the stand that all he in the American Medical Association was interested in doing was simply acting as a collector of facts which they would disseminate to interested people. If that is all they were doing, don't you agree that he used very strange language indeed?

The defendant Willson, you will remember, testified that he never cared for section 5. He objected to sending the Sprigg letter. Now, what were his objections? His testimony tells you, and I quote:

"My own personal feeling was that this method of approach to the hospitals in connection with G. H. A. was inexpedient and calculated to engender friction rather than any real assistance in the problem."

He didn't like the letter because he didn't think it would work, because of the method. He preferred another, which you will see, and another member said he thought this letter would cause a lot of uncomplimentary comment against the Medical Society and the profession generally by the lay boards. He felt that this information should be conveyed to them orally when they would have nothing to fight back with. And that is the reason the letter was abandoned for the November 3 resolution of Willson, seconded by Christie, and passed by the Society itself.

And let me go back to that resolution one moment, because do you need anything more?

"WHEREAS, The Medical Society of the District of Columbia has an apparent means of hindering the successful operation of Group Health Association, if it can prevent patients of physicians in its employ being received in the local private hospitals; and

"WHEREAS, The Medical Society of the District of Columbia has no direct control over the policies of such hospitals as determined by their lay boards of directors, except through its control of its own members serving on their medical staffs"—

and believe me that is plenty. You see, the approach is to be made through the medical staffs, because they can turn a doctor down and pretend it is on his qualifications. They can camouflage to the nth degree, without even anybody knowing, perhaps, that he is connected with Group Health. And then he points to this Section 5; and then the resolution adopted by the Society is:

"Resolved, That the Hospital Committee be"

—and that is omitted by the defendant Warfield—

"and is hereby directed to give careful study and consideration to all phases of this subject and report back to the Society, at the earliest practicable date, its recommendations as to the best way of bringing this question to the attention of the medical boards and boards of directors of the various local hospitals in such a manner as to insure the maximum amount of practical accomplishment with the minimum amount of friction and conflict."

Why is it referred to the hospital committee? Because the hospital committee is composed of one member from each one of the local hospitals and they can get to the medical boards, and the medical boards can advise the directors. But at this

early date, at that very meeting, one of the members of the executive committee reported that every hospital in the city was cooperating with the medical profession against Group Health Association, with one exception. Bear in mind there was no question of qualifications of doctors then. And on November 11, at a meeting attended by one of these defendants from the A. M. A., this hospital committee brings in its report, and its report is innocuous; it is useless, it doesn't reach the problem. His report is Group Health patients should be admitted but they should be treated only by members of the courtesy staffs of the hospitals. Why, of course, no one could ever pretend otherwise, except in an emergency, but the point was that there was no assurance that Group Health doctors would not be on the courtesy staffs, unless something else was done; and Yater, the defendant Yater, pointed that out, and he moved to recommit that as not going far enough because it didn't give assurances that the members of Group Health staff were not on the courtesy staffs, and then and there the president, Neill, reported that there were at least two doctors who were members of the Society, Lee and Scandifio, on G. H. A.'s staff.

You will remember that just about that time the proceedings got under way for the expulsion of Lee and Scandifio, but if they could get through a rule like the rule of the Mundt Resolution that confined the courtesy staffs to their own members, then all they had to do is see that no Group Health doctors got in their Society, and those in got out; and then they have something; and just at this time you will remember the hospitals want definite instructions as to how to proceed. They know that Lee and Scandifio are still members of the Society; they have them on the courtesy staffs of some of these hospitals. On November 10 the superintendent of Homeopathic sent, as an expression of its attitude, to the Society, as the attitude of that hospital against Group Health Association, the letter the defendant Custis, their chief of staff, wrote to Penniman on November 9, saying that until approved by the District Medical Society, the Homeopathic Hospital could not enter into any arrangement with it. And the secretary of the Medical Board of Georgetown, on November 18, writes to the Society:

"What is the opinion of the Society concerning the members who are now engaged with Group Health Association as regards to consultations by the hospital staff members, and admissions to the hospital for their patients?"

And the answer is forthcoming on Dec. 1, 1937, when the Warfield committee comes back with a report that does mean something, and it is the rule of the Mundt Resolution, and it says it shall be recommended to the hospitals, and a "word to the wise is sufficient," and that their entire staffs shall be confined to members of the District Medical Society, or the other local societies of the A. M. A.

Now, then, they have something. All they have to do is to see that Lee and Scandifio get out, and none of the staff get in.

Let us see what the A. M. A.—let's catch up on the A. M. A. Let me show you that from August 1937 to November 1937, while this conspiracy I have described was at its height, the defendant Cutter, the secretary of the Council on Hospitals of the A. M. A., was hard at work on five of the Washington hospitals that had not been inspected for years previously, to make them adopt this same rule of the Mundt Resolution; and he succeeded in every instance, and he did it by courteous phrases in the first instance, because that was all that was necessary. If they didn't come along he could withdraw their registration, their approval for intern training; he could bring down a dire catastrophe on any hospital that resisted. So, in wielding the big stick, all he had to do was speak softly, and he employed a formula that had worked well in other places, and which he boasted had worked well. He wrote:

"What possibility, if any, exists for the observance of this recommendation in the Washington Sanitarium and Hospital?"

They write back:

"Each application for staff appointments calls for the Medical Society to which the applicant belongs. Would this meet the requirement of the resolution?"

They are not in doubt as to whether it is a requirement. And Cutter writes back:

"The intention remains that of hospitals stipulating membership as the basis for the assignment of hospital privileges."

Well, here is one, and he was not invited down here by the Washington Sanitarium to inspect it.

He writes the same formula to Georgetown, and gets back:

"The executive staff ruled at its last meeting that no physician shall be nominated or elected to any staff of the hospital unless he is a member

of his local Medical Society or the A. M. A. Members who are already on the staffs specified by you as not meeting these requirements will be notified to qualify within the year."

Here is another one.

Providence, another hospital, the same formula—and he gets another. You will remember Providence. He says:

"As matters stand now, we believe quite likely that when this statement is submitted to the Council at its regular meeting early in November, intership approval will be withdrawn."

And the Providence superintendent writes back that:

"No words can express my distress at the possibility of losing the A. M. A.'s approbation of our intern training school. Nothing will be omitted either by the staff, the hospital, or the superintendent to prevent what would prove to be a dire catastrophe to Providence Hospital, the loss of its accreditation for intern training."

And then he is told:

"Members of the staffs who do not belong to the Medical Society of the District of Columbia have been contacted, and at the present time, all non-members have submitted their applications for membership, so that now, with those exceptions, all members of our staff are members of the A. M. A. or affiliated with its constituent societies."

The same thing at George Washington Hospital:

"The problem then is reduced to three members of the clinical staff, and I feel that this number will be reduced very shortly."

Now, Columbia Hospital. The same formula. No response. He follows it up. It is not simply a suggestion; he follows it up. Eventually, back on November 5, we have the following:

"As for the demand that 'physicians on the staffs . . . should be limited to members in good standing in their local county medical societies,' it meets with the approval of the Medical Board as regards future appointments. So far as known, all present members of the staff of this hospital, except one, are members of the District Medical Society."

There is no doubt but what that formula and that follow-up was a demand and a requirement and was very effective, whatever anybody may say.

Cutter himself had said—and this is in connection with the use of the formula elsewhere—

"It has not been necessary to take drastic action against any hospitals on the basis of the membership resolution of the House of Delegates since prompt results have usually been obtained by less formidable action on the part of the Council."

Cutter himself had said that the purpose of the Mundt Resolution was—and I quote:

"to smoke out from the staffs of some hospitals certain men who were regarded as objectionable but whom the hospital felt a delicacy in removing."

Cutter himself had said—and I quote him:

"The Council on Medical Education and Hospitals will, without question, adhere to the instructions of the House of Delegates in requiring that hospitals . . . have on the staff only physicians that are members of the County Medical Society."

Cutter himself had said:

"We have used this same method with respect to quite a number of hospitals and the response has, in almost all instances, been completely satisfactory."

You, I am sure, will recall how Dr. Cutter finally admitted on the stand, under cross examination, that after those doctors out in Chicago had been expelled because they had a prepayment clinic, which was objected to on the ground that it was contrary to sound public policy, whatever that may mean—I ask you, who in the world ever entrusted to any private corporation the power to affect public policy without ever bothering to define it or to set up standards to guide anybody in observing it?

You will recall that after that happened he admitted on the stand that he wrote to every one of the private hospitals in Milwaukee in turn, first letters, and then follow-up letters, until those doctors who had been expelled were no longer members of the staffs of any of those hospitals. I asked him:

"Q.—And you don't attribute that result in the slightest degree to your efforts?"

"A.—I do not say that. I think it may have affected it."

He gets this letter in July 1938 from the last hospital that held out, Mount Sinai:

"Drs. A. L. Curtin and H. F. Wolters were removed from the active staff of Mount Sinai Hospital and courtesy privileges were withdrawn from these two men, as well as from Drs. Sullivan, Reuth and Dahlgren, in accord with your letter dated July 14, 1938 and telephone conversation held with you on Friday, July 15, 1938."

And in the light of that evidence of his activities and what he said as to the results he accomplished, can you believe for one moment that Cutter did not intend to hang over the heads of the Washington hospitals a threat of ruination if these hospitals should open their staffs to G. H. A. doctors—unless they subordinated themselves and violated their trust and made themselves the slaves and the followers of the behest of these organizations?

And the Warfield committee which, on Dec. 1, 1937 embarked on the same program of achieving compliance with the Mundt Resolution in the other hospitals in Washington, achieved similar success.

The Hospital Committee went to work, and I will show you its favorable report on the results of its activities; and when the December 1 resolution came to Garfield Hospital the defendant McGovern, secretary of the Medical Staff, responded, and he told the District Medical Society in January 1938 that the "present policy in force at Garfield is in conformity with the provisions of" the December 1 resolution.

By "present policy" he means the present policy, Macatee to the contrary notwithstanding, because the questionnaire for Garfield, with Warfield himself on the staff of that hospital, reported that at that time there were only 75 per cent of the membership of the courtesy staff who were members of the District Medical Society, but that this requirement was exacted of "all recent appointments."

So there is no doubt but what Garfield fell into line because of this resolution.

President Taylor of Sibley Hospital, who had responded favorably to the White List, responded equally favorably to the December 1 resolution. He writes—and I quote:

"There are no changes in the Council's personnel in contemplation at present, but should such contingency arise, you will know that proper regard will be paid to the wishes expressed in the aforementioned resolution."

So that when the Group Health Doctors come up, Sibley is ready for them.

With respect to Children's Hospital, on Dec. 6, 1937, four days after the receipt of the December 1 resolution, it amended its by-laws to require courtesy staff members be members of the District Medical Society.

Emergency Hospital. You remember the testimony, that that was the one that had a rule from April 1936. You will also remember the testimony of Sandidge, and also from Mitchell, that it had not been strictly enforced.

In June 1938, after receipt of the resolution and after these activities of the Hospital Committee it began a policy of strict enforcement, resolving—

"That the Courtesy Committee carefully check the list of doctors who have been given courtesy privileges at Emergency and who are not members of the D. M. S., (or their local medical society in the case of physicians who are nonresidents of the District), and that these members be notified that they must join the Medical Society or the hospital will be obliged to revoke their privileges."

That was after those activities. Although it was not strictly enforced, it was very strictly enforced with regard to Group Health Association.

You remember that Lee, when he joined Group Health Association, tendered his resignation from the District Medical Society. I think that was on October 31. And will you believe it!—he received from Emergency notification that his privileges were withdrawn on the very next day.

Oh, yes; there was strict enough enforcement for the Group Health Association doctors.

THE COURT:—If it is agreeable to you, Mr. Lewin, we will take a short recess.

Mr. Lewin:—Will that be counted against my time?

THE COURT:—I do not think so.

Mr. Lewin:—I am agreeable. I would love to have a recess.

(A brief informal recess was taken, at the conclusion of which the following proceedings took place:)

Mr. Lewin:—When we recessed I was calling the jury's attention to the documentary evidence which shows the success that the Hospital Committee had with respect to the enforcement of the Mundt Resolution, that courtesy staff privileges were to be confined to members of the defendant corporations. I told you about Garfield's response, about Sibley's response, about Children's Hospital's amendment four days after they got the resolution, and Emergency Hospital's response.

On Dec. 21, 1937, on a motion of the same defendant Custis, who had written that letter to Group Health Association that they could have nothing to do with them because they were not approved by the District Medical Society, Homeopathic Hospital for the first time adopted this rule. And I caution

you that the questionnaire makes a mistake as to that and says that the rule started on Jan. 1, 1937, when it clearly means Jan. 1, 1938. It is the usual mistake in the entry of the year, because there was a resolution adopted for the first time in December of 1937, confining their staffs to members of the defendant corporation, pursuant to the behest of the defendant corporation.

So you will see that Cutter's activities accounted for five hospitals, Columbia, George Washington, Providence, Georgetown and Washington Sanitarium. There is documentary evidence as to Emergency, Homeopathic, Sibley and Children's hospitals; and I will show you later the report of Warfield on his check-up, that he had them all except three. He was wrong about it, because he meant Columbia, George Washington, and Sibley; and here they are (indicating). He said he found them all cooperating against Group Health Association. And so they were.

What difference does it make with regard to the qualifications of a Group Health doctor in his application to any of these hospitals? He could have had the qualifications of an Osler, and he would run his head up against this stone wall; he would be denied membership on the hospital staffs, would be denied courtesy privileges at the hospitals regardless of his qualifications.

Does that not make all these insinuations about Dr. Selders' qualifications totally beside the point?

Just as the Society was concerned in the fall of 1937 as to whether the White List had taken effect, just so we find them in the early part of 1938 still demanding that assurance be made doubly sure, because the defendant Yater comes back and says, at the meeting in the early part of February, that Georgetown, among others, has some doubts as to what to do with members of the G. H. A. staff who were formerly members of the District Medical Society; that they were in a dilemma as to how to proceed.

And the defendant Hooe, chairman of the Disciplinary Committee, was quick with his suggestion that a letter be prepared warning them if they did not observe the White List, and he now suggests

"that a committee of the Society should go around among the hospitals and attempt to get them to outline a policy of disapproval of the G. H. A."

And then the defendant Mattingly presents a resolution; and he is the defendant, you will remember, who wrote to the Grand Jury boasting of what he had done, and you remember that he said in that letter—and can you want any more than this on the issue of fact that I have suggested?

"I frankly admit the following acts of professional leadership, successfully accomplished."

Professional leadership?

"I personally raised the question and forced the issue of compelling wavering or undecided hospitals"

Compelling, mind you!

"to deny courtesy privileges to staff members of G. H. A. . . . I successfully used my position as a member of the Medical Council to prevent Dr. Raymond Selders from receiving courtesy privileges at Sibley Hospital."

Not only did he use his influence at Sibley on the Medical Council against one man, but he raised the question and forced the issue—by reasonable persuasion and debate? By "compelling wavering or undecided hospitals to deny courtesy privileges to staff members"—to unqualified men?—"to staff members of G. H. A."

And this was his resolution. This was in February 1938:

"That the proper agency of the Medical Society be instructed to present at our next stated meeting the facts relating to the present status of Group Health physicians at the various Washington Hospitals preliminary to appropriate disciplinary action, in event any hospital has ignored the Medical Society's wishes in the premises."

Preliminary to appropriate disciplinary action against these independent hospitals, if they had ignored the wishes of the defendant.

And that resolution is not to be lightly brushed aside as some man's blundering overstatement. Oh, no. It is taken seriously by the Executive Committee and is referred to what committee? The Hospital Committee—the same committee headed by the defendant Warfield and a member of which was on the staff of each one of the hospitals. A questionnaire was sent out by Warfield to every member of that committee to report, and those questionnaires are in evidence.

They start off with a question about Group Health Association, and they ask, "What is the policy of the hospital? Is it favorable to the policy of the District of Columbia Medical Society?"

And every one of them replied in the affirmative.

The whole questionnaire was addressed to the Group Health Association problem; and when those hospitals were reporting as in favor of the policy of the District Medical Society they were in favor of the policy that I have described to you, ladies and gentlemen.

Only two of them reported on those questionnaires that there were members of Group Health Association on the Hospital Staff at that time. Sibley Hospital reported that Dr. Scandiffio was then on the Courtesy Staff, and you will see from Warfield's report, in a moment, how that institution had assured the chairman of the Hospital Committee of the District Medical Society that steps would be taken to deny that doctor his privileges.

The Homeopathic Hospital questionnaire was made out by the Hospital Committee representative, Dr. Birdsall, and signed by the Superintendent of that hospital, reporting that Lee and Scandiffio had privileges. They were under the misapprehension that Lee was still a member of Group Health Association, but he had resigned under circumstances that you will remember. This questionnaire was signed by the superintendent and reported that—

"future action regarding them awaits the action taken by D. C. Medical Society."

And then—I quote:

"The hospital wants to cooperate with D. C. Medical Society. Would like advice about course to pursue regarding applications from patients holding Group Health Association. Also regarding consultations in such cases."

And so, on March 28, 1938 the Hospital Committee of the defendant Society, through the defendant Warfield, was enabled triumphantly to report complete success:

"that at this time, the majority of local private hospitals contain in their by-laws a provision that a physician in order to practice in the hospital must be a member or qualified for membership in his or her local medical society. All of the local private hospitals are cooperating fully with the Medical Society in respect to Group Health Association, Inc. At the present time only one of the local hospitals has on its staff list the name of a physician connected with Group Health Association, Inc."

He must have been referring to Sibley, or it might have been Homeopathic Hospital. The tabulation that was offered in evidence showed Sibley having Dr. Scandiffio there.

"This hospital does not revise its staff list annually, as do the other hospitals, but it has assured the chairman of the Hospital Committee that steps have been taken to deny this physician hospital privileges."

Ladies and gentlemen of the jury, this (indicating) was shown you before, and I am not going to burden you with it again, but it is a photostatic copy of the report from which I have just read and it recites these resolutions that I recited to you this morning, beginning with the November 3 resolution which started the action with the hospitals, and the resolution that Mattingly had offered, referring to appropriate disciplinary proceedings against any hospital which should ignore their wishes; and when it was written, you remember that in the second paragraph we find this:

"In an effort to hinder the operation of Group Health Association, Inc., in the local private hospitals the Medical Society adopted a resolution."

That is stricken, and in the handwriting of Warfield—that is was offered against Warfield alone—appear, instead of "hinder the operations of Group Health Association," which were the words of the resolution, the following sanctimonious words:

"To maintain the high standards of practice."

When it comes to the first paragraph on the second page he strikes out these words:

"preliminary and appropriate disciplinary action in event any hospital had ignored the Medical Society's wishes."

Those sanctimonious changes from what he really meant were made in the Executive Committee when he made his report, because the minutes of the Executive Committee show that this resolution was adopted "with slight changes which pertain to paragraph 2 and paragraph 3." And here they are (indicating).

It was adopted by the Executive Committee on March 28 and was reported to the Society on April 6, and it was adopted by formal vote of the Society on April 6, when a representative of the A. M. A., one of the defendants, was present when the action was taken.

In the light of that evidence, unimpeached and unimpeachable, proceeding from the mouths of the defendants themselves, and written down to be preserved contemporaneously and currently with the event, could there be any reasonable doubt on the narrow issue that here was a plan to take concerted action to hinder the successful operation of Group Health Association—I use their own words—"by preventing patients of physicians in its employ being received in the local private hospitals"?

Just for a moment or two I would like to turn to the evidence that corroborates everything that I have said, proceeding from the hospitals themselves. Bear in mind, ladies and gentlemen, the hospitals are not defendants in this case. They were in a hot spot. Whatever their independent wishes may have been, they certainly were unavailing, in the face of this kind of pressure backed up by real power.

When we turn to the hospital records themselves what do we find? Was Dr. Selders kicked out of the hospital because of his qualifications? I wish I had time to recite to you what the record shows as to his qualifications.

He had five degrees from higher institutions of learning. I would like to refresh your recollection as to his practice for seven long years in Houston as a surgeon; as to his postgraduate work in the postgraduate school of the University of Pennsylvania; the receipt of his Master's degree in Surgery; as to his splendid record at the Worcester City Hospital—Mr. Castle's gossipy letter, based upon hearsay on hearsay, to the contrary notwithstanding; as to the fine things that were said about him, including that which was said about him by the secretary of the Harris County Society, in the same letter that said they were going to bring disciplinary proceedings against him; as to his fine qualifications as a general surgeon, as Dr. Brown reported to Mr. Penniman when he was employed.

But time is limited, and let me pass now for a moment to the kind of evidence that they put into the record regarding Dr. Selders. This writing of Castle's based on what somebody named Higgins, whom nobody knows, says that somebody at Worcester City Hospital said that one of the Sisters said about him.

Just contrast that kind of miserable muckraking, uncorroborated, hearsay on hearsay, with the evidence which we have put into the record, and I ask you whether a doctor who is impressed with that kind of thing comes nearer than the Group Health Association doctors to violating true ethics. The conduct of a gentleman, regard for the Ten Commandments and the Golden Rule? Oh, no. All these facts we have gathered together in his favor were brushed aside and they content themselves with hiding behind the Castle letter, which comes some months after the hospital had acted against him, and the report from the Washington Academy of Surgery and the Washington Gynecological Society—organizations with high-sounding names—reports that could not have been written, as the evidence shows, following the tenets of Hippocrates, but the tenets of hypocrites, basing their recommendation on no interview with him, no chance for a hearing. No one had seen him operate; not even bothering to read his references in the hospitals; based, in the Washington Academy of Surgery, on this documentary evidence, a letter which they thought so damned him with faint praise that they did not consider his other references.

They call attention to the fact that Dr. Moore had not responded, when they must have known that he could not respond, when he was addressed at Hugo, Oklahoma, and was in Houston, Texas.

And the decision was reached, ladies and gentlemen, in a resolution by the Washington Academy of Surgery on December 10, as shown by the minutes, a resolution presented by Dr. Sager who was on the Hospital Committee of the District Medical Society, which said that they should consider his ethics, the ethics of the applicant—again, this same old word—as defined by the American Medical Association.

The Washington Gynecological Society was worse. No references were written to. No references read; no interviews; no seeing him in operation. Merely two miserable gossipy letters that any of us would be ashamed of—a letter from Berry to Bullard. There is no evidence that the committee even knew who Berry was. He was reporting some gossip he had heard about him in Worcester. And then there was the letter in which they place most of their reliance, which is the letter from Johnson which betrays on its face that it is nothing but hearsay, that Johnson does not know this gentleman; and the worst thing he can say about him is that he is the kind of fellow who is likely to get in most anybody's hair.

Have we not come to a sorry pass when all these high-sounding tenets are directed to the preventing of any chance of a man for a livelihood? And yet that is what this high-sounding society puts out as the basis of its recommendation against these gentlemen. Nothing more.

But the true situation was the treatment of the patients.

You have heard about the qualifications of Dr. Selders. I told you about Dr. Scandiffo, the Homeopathic and Sibley staffs and the fate that awaited him, without any whisper about his qualifications. You remember Dr. Price, a defense witness, who criticized Group Health Association after he left it and was confronted with his prior inconsistent statement when he was with it, and how he had applied to Homeopathic Hospital and had not received even an answer. He applied in the spring of 1938 and got no answer at all, and he was not admitted to any hospital in Washington during the whole period of the conspiracy; but on the day before the indictment was returned the Medical Staff of Garfield approved him for membership—one day before this indictment came down.

I told you about Dr. Lee and the report on the questionnaire from Homeopathic Hospital with regard to him—

"Future action regarding him awaits the action taken by the D. C. Medical Society."

You will recall Dr. Hulburt. He was not a member of the District Medical Society, but he had privileges at Georgetown. He was called in by the superintendent while he was down there, while he was connected with Group Health, and was told that he could no longer come into the hospital or have any cases there. Then he resigned from Group Health. It is a wonder they all did not. How Group Health Association managed to survey this kind of an attack I do not know. But he resigned in April 1938 and in May he was reinstated. Free of Group Health he now becomes a qualified doctor, I suppose, in the Georgetown Hospital.

He applied to Columbia Hospital, while he was a member of Group Health, for normal obstetrics, which means the ordinary delivery of babies without any complications at all. His application was tabled there, as the minutes show, so long as he was a member of Group Health Association; but after he resigned it became all right for him to deliver babies, and he was admitted into Columbia in June.

And that fine, upstanding-looking professional man, Dr. Halstead—was there a breath against his qualifications? He told you on the stand that he applied in the summer of 1938 to Georgetown, Sibley, Providence, Emergency and George Washington and, in the fall of 1938, to Garfield, but he was not admitted to any of them. Does it take from August until December to find out that Dr. Halstead is worthy to practice his profession in a hospital?

You will remember Dr. Richardson who testified that he resigned from Group Health Association for fear of losing his hospital privileges.

When you consider all those doctors who suffered the same fate, I ask you whether all this attempt to rest this case on some gossipy letters with regard to Dr. Selders being able to play musical instruments, and things of that kind, account for this unanimity. I wish I could quote to you, even at the risk of boring you a little more, minute after minute of those hospitals showing the real reasons regarding Group Health Association. I wish I had time to recall to your minds the effect this kind of thing has on patients, upon private citizens, upon ladies like Miss Sarah Abbott, knocked down on the street, taken to a hospital, nervous, suffering pain, wanting a doctor in whom she had confidence, and being told, "You can have our doctors." Or the case of Miss Stuart, sick enough to be hospitalized for three weeks at Garfield, and only permitted to have Dr. Selders there because they had not had time to get his revocation notice to him.

I wish I could recall to your minds Mr. Hardin, taken with an emergency case of appendicitis in the middle of the night and denied his doctor, told that he could not have his doctor in any of the hospitals. He is rushed there, and what is he confronted with? By a memorandum from the admitting office of Sibley Hospital, prepared by its admitting staff pursuant to directions, listing the names of every one of the doctors, including Dr. Brown, associated with Group Health Association. These doctors are not to be allowed in at any time.

I wish I could recall to your minds that dear old lady, Mrs. Austin, who was knocked down on the street and hurried to one of these hospitals receiving the same denial of free choice. And all this is based on ethics. One of them is that Group Health Association denies the free choice of physicians. I will ask you whether these patients' free choice of physicians was not seriously impaired.

I wish I had the power to bring to your minds the feelings that Miss Tew must have suffered when her doctor diagnosed a pain in the abdomen as an emergency case and was permitted to admit her. She was taken to her room and given morphine. Then, after she has gotten the morphine and the pain has subsided, a young resident or assistant resident who has been

practicing a year, I think it was, pressed on her abdomen, paying no attention to her blood count, which is indicative of infection and which read 14,500, which is double the normal, and paying no attention to her fever, and none of the other doctors bothering to come to see her—callers who called on the phone were told these things and her doctor in whom she had confidence was told it was not an emergency case. He had a right to bring her there if it was an emergency case. Oh, no. You can have these doctors and only these doctors. When she insisted on her free choice she must rise from her bed with the morphine effects still on her, nauseated and nervous, having nerved herself up to an operation, and she is permitted to leave the hospital in a half-fainting, nauseated condition.

Ladies and gentlemen, you have heard this evidence. You have heard the defense, whatever defense it has. I ask you, in the light of the evidence which I have not over-stated—I have stuck to these notes so that you might have confidence in me—I ask you, when you come to your deliberations, that you can conscientiously say that whatever may be your personal feelings, you can do but one thing; that this evidence convinces you beyond a reasonable doubt that the narrow issue—not the red herrings—of a concerted attempt and a plan to oppress by the means that I have stated was engaged in beyond a reasonable doubt.

ARGUMENT ON BEHALF OF THE UNITED STATES

GRANT W. KELLEHER

Mr. Kelleher:—May it please the court, and ladies and gentlemen of the jury: when I stood before you in my opening statement many weeks ago I told you that the Government would establish beyond a reasonable doubt that there is in this country today a large body of American people which either does not receive adequate medical care or which is oppressed by the heavy financial burden of the care which it does receive; and I can now stand before you and tell you ladies and gentlemen that not only has the Government established that fact, but it stands undisputed in the record in this case, and you must accept the fact as proved and undisputed that people with substantial incomes receive two and a half times as many physicians' calls a year, spend twice as many days in the hospital, as people earning less than \$2,000 a year; that only 14 per cent of the more fortunate receive no medical care as compared with 50 per cent of those in the low-income groups, despite the fact that it is well established and well recognized that the low-income groups are far more susceptible to sickness and disease.

And so far as the uneven incidence of illness is concerned, you must accept as an undisputed fact that one tenth of the American people bear over 40 per cent of the total medical bill, while six times as many bear less than 18 per cent.

Those are the facts. Those facts rest on the doorstep of the organized practice of medicine; rest there because not only is there no evidence disputing the facts to which I have referred, but there is nothing to show that the private practice of medicine under the fee-for-service system has been able to cope with this serious social problem.

There is evidence in the record, however, that there are some 150 organizations throughout the country today making a sincere and conscientious effort to meet this problem. You have heard of some of them. You have heard of the Ross-Loos clinic, of the Endicott-Johnson plan, the Stancola in Louisiana, of the plans of the Northern and Southern Pacific railroads; and from the mouths of the defendants themselves, either in their correspondence or from that stand, you have heard it admitted that some of these plans are manned by competent doctors; that some of these plans have given good medical service.

What these plans are and what their purposes are you already know. Briefly, they seek to meet this social problem, which is very serious, first, by improving the quality of medical care and reducing the cost to the patient by combining the care in group practice, by both general practitioners and specialists, the effect of which is to give the patient the advantage of the joint knowledge of the group and, at the same time, to reduce the cost of the care by eliminating the unnecessary duplication of equipment and facilities which would inevitably result, as we know, if these doctors were engaged in private practice. It seeks to eliminate the heavy financial burden caused by the unpredictability of illness, by its system of periodic prepayment which entitles each member to complete and adequate medical

care, within limits, irrespective of the amount of care he needs. It is group practice on a prepayment basis. Whether it will succeed or whether it is the answer to the problem with which we are faced today is not for me to argue or for you to decide. Suffice it to say that on the record in this case the intents and purposes of this plan cannot be disputed, and on the record in this case it is also true that there is nothing revolutionary, nothing radical, no new ideology involved in these plans. Prepaid medicine is over a century old; and the practical common sense appeal of group practice, the economies reached, the good sense of it, destroy any argument that there is anything extreme or radical about it at all. It has been indorsed by hard-headed business men, such as those men must be who run the Standard Oil Company of Louisiana and the Endicott-Johnson Shoe Company.

We have heard it said in this case that the medical profession alone is able to judge what is adequate medical care for you and me. On the record here I question whether the degree of Doctor of Medicine bestows any such ability with it. But assuming that it does, what is the answer of some of these far-seeing and progressive members of the profession?

We showed you the report of the American College of Surgeons, that body composed of eleven thousand of the leading surgeons in the country. What was their answer? They say prepayment plans furnish a reasonable expectation for providing more adequate medical care to the American people and that experimentation with such plans should be continued.

We showed you the results of a committee on the costs of medical care. Fifty leaders in economics, sociology, public welfare and medicine, twenty-five of them from the medical profession. What was the answer? Seventeen of those doctors endorsed the majority report which recommended experimentation with these plans. There is an answer from the profession itself to any claims that these plans seek to destroy the private practice of medicine.

We have in evidence Exhibit 104 for the Government which has been referred to as the prospectus for Group Health Association. There is no evidence to show that it directly ties up into the G. H. A., but it is sufficient to say that G. H. A. is a small scale model of what is described in this prospectus.

This prospectus contemplated a plan which would involve seventy-five thousand of the population of Washington. As you know, Group Health Association is far more modest than that. But suffice it to say that in this prospectus are detailed the objectives and the methods by which those objectives can be achieved by Group Health Association.

Let me refer for just a minute to the foreword in this prospectus, because here is what Group Health Association was seeking to accomplish and here is all that the defendants knew that it was seeking to accomplish when they first decided to oppose it:

"The aim of this plan is to make available to Federal employees in Washington and to their families adequate medical care, both preventive and curative, to provide this care at moderate cost and to place that cost on a regular budgetable basis within the means of the group to be served."

There is the outline of the purposes of Group Health Association.

To achieve that purpose Group Health Association adopted the successful plans detailed in this prospectus and followed them—the plans of the Ross-Loos clinic, of Endicott-Johnson and of Stanocola. In so doing it decided that it would be necessary in order to achieve the economies which such plans contemplated to have a full-time salaried staff; and here is the plausible explanation of the reasons set forth in this prospectus which is in evidence:

"The pros and cons of provision of service by a staff of salaried physicians have been carefully considered. The disadvantage of salaried service is that it does not permit the patient to go to any physician he may select, but limits his choice to the physicians who are members of the staff. It is believed that this disadvantage is at a minimum in the case of the population of Federal employees, since many, being new-comers in the city, have no affiliations of long standing with physicians. In any case the disadvantage is more apparent than real. Actually the average layman generally chooses his physician on the basis of hearsay and is not qualified to judge competence. With a salaried staff the patient receives care from a selected group of physicians chosen by a chief of staff on the basis of their professional qualifications and competence. Furthermore, only in salaried group practice is it possible to have a desirable degree of professional supervision of service and ready consultation of one physician with another. Finally, only on this basis can the economies flowing from organization be achieved."

It is plausible and reasonable; something about which reasonable men might disagree, certainly, but certainly nothing irrational or unreasonable about it.

So Group Health Association decided to incorporate in its prepayment plans the idea of a salaried staff of doctors.

Group Health Association was intended merely to give to the employees of an agency of the Federal Government the benefits which businesses like the Standard Oil Company of Louisiana, the Endicott-Johnson Shoe Company, the Northern Pacific Railroad Company and the Southern Pacific Railroad Company had achieved through similar plans—to give to the Government employees the same benefits that were given in the railroad yards and shoe factories of the country.

What was the attitude of the American Medical Association concerning these plans? I say to you that on the basis of the record in this case the conclusion which you must draw is inescapable: the American Medical Association opposed these plans as far back as 1932 and fought them with everything at its command. It did so because it had to do so. It did so because the governing body of the American Medical Association had declared that it must.

We proved to you that in 1933 the House of Delegates in formal assembly adopted, as expressive in principle of the views of the A. M. A., the minority report of the Committee on Costs of Medical Care, the report which opposed and violently criticized these plans. The American Medical Association violently excoriated the American College of Surgeons one year later through its House of Delegates for the report which that body issued endorsing such a plan; and in 1934 the same governing body of the American Medical Association adopted ten fundamental principles. They were called that by the Board of Trustees. That was done to control any experiment to supply more adequate medical care to people with limited means. One of those principles categorically prohibited group practice because it required that any plan embrace within it all of the physicians in the locality to be served. It unequivocally forbade contract practice in these plans; and it is undisputed in the record at this time.

How, then, could the American Medical Association do anything different than oppose Group Health Association? And it did oppose it from 1932 throughout the period of the indictment to 1938. Doctors were expelled in Texas, California and Wisconsin. They were threatened with expulsion in Cincinnati, Ohio, for participating in these plans. Trinity Hospital lost its registration. The Milwaukee hospitals were compelled to exclude from their staffs members of the Milwaukee Medical Center.

There can be no real issue on the question of the attitude of the American Medical Association concerning these plans. As one of the doctors is quoted in the minutes, the American Medical Association and organized medicine have fought these plans tooth and toe-nail.

Ladies and gentlemen, do not believe for a moment that these constituent and component bodies of the American Medical Association were free to decide for themselves what was ethical or unethical. The House of Delegates had spoken; the Judicial Council of the A. M. A. had spoken and declared these plans unethical. The constitution and by-laws of the A. M. A. provide that the Judicial Council shall be the final arbiter on matters of ethics; and Dr. West told you that every constituent body of the A. M. A. except one, and every component body, had agreed to abide by those principles of ethics in the constitution of the Medical Society; and the Medical Society of the District of Columbia adopts those principles of medical ethics. The House of Delegates is the body which lays down the principles which shall control; and with the Judicial Council interpreting those principles of ethics it is as absurd to say that the Medical Society of the District of Columbia is free to interpret those principles, independently of the A. M. A., as it is to say that this court here may ignore the interpretation placed upon a statute by the Court of Appeals of the District of Columbia.

Now, let me come to the attitude toward G. H. A. I think the evidence shows beyond question—and I am going to try to demonstrate it to you now—that the American Medical Association and the Medical Society of the District of Columbia opposed this plan of G. H. A. from the moment they had the first inkling of it. The first evidence of knowledge is the letter from Dr. Ireland to Dr. Cutter in which he told of the H. O. L. C. scheme and said:

"The local doctors are going to be wised up."

And the evidence shows that they were. In the month of May there was a series of conferences between Dr. Glenn I. Jones and the defendants Christie, McGovern, and two others, and before May 16 when Dr. Glenn I. Jones had merely explained that this plan involved prepayment, with a salaried staff, these doctors had taken the position that they were opposed to it and that the Medical Society was opposed to it;

that no doctor could take a position on the salaried staff of that organization and still remain a member of the society, and that the organization could not expect members of the Society to consult.

That, ladies and gentlemen, was as early as May 16, 1937, before there had even been a formal meeting of the Medical Society with reference to it; and the minutes of those meetings further tend to substantiate the position of the Government in this case, that the opposition to G. H. A. occurred from the start, and that the circumstances which were later developed and the facts which were later developed had no influence on the decision of these gentlemen to oppose this plan.

You will recall the minutes of the first meeting. At that meeting, which was specially called to consider G. H. A., Dr. Verbrycke got up and read this prospectus, and that was the knowledge which these defendants had.

After he had read the prospectus Dr. Mattingly got to his feet and said, "We have two weapons at hand: one, to forbid consultation, and two, to deal with the hospitals by failure to put them on the approved list if they cooperate with G. H. A."

Then a committee was appointed, a committee of six, including the defendants Hooe and McGovern, with the defendant McGovern as chairman, to consider this plan in cooperation with Dr. Verbrycke's committee, the Committee on Medical Economics.

Bear in mind that here is what they had (indicating)—this prospectus describing Group Health Association. That committee reported through Dr. Verbrycke, three weeks later. What was its report? This was before they had ever seen, so far as this record goes, any of the representatives of Group Health Association. The report was this, that it involves prepayment; it involves a salaried staff. Therefore it is not ethical, and no member of the Society may have anything to do with it as at present constituted.

That was the report, as early as June 21, 1937. At the same meeting Dr. Mattingly rose again to his feet and got his suggestion across again, that the two ways of combating this plan were, one, by disciplining members, and, two, by dealing with the hospitals.

At this meeting it was also decided that Group Health Association should be invited to the next meeting of the Executive Committee. Mr. Penniman and Mr. Zimmerman came. The plan was laid before them. It involved prepayment; it had a salaried staff. They were told they were going to rely on the Medical Society for consultants. They were told how it was financed; and the H. O. L. C. had made an appropriation for two years to get it started. That is in the minutes of the first meeting with G. H. A.

What did the Medical Society members do? What could they do? They had prejudged that plan. G. H. A. did not know it, but the evidence now shows that they came over there to talk with the Executive Committee when that committee had already adopted the Verbrycke report as the policy of the Executive Committee, and had already decided that G. H. A. was unethical and that they were going to deal with it as "at present constituted." What more could they do than what McGovern did?—and that was to intimate that G. H. A. would not be acceptable, by calling their attention to the fact that it did not permit free choice of physicians.

At that same meeting the evidence shows it was decided to have another meeting between representatives of the Society and Group Health Association; that is, the board of trustees of Group Health Association. G. H. A. willingly agreed.

After Zimmerman and Penniman had left, the minutes show that in discussing the function of this committee that was to confer with G. H. A. it was explained that all that the committee should do would be to go over and feel them out—and those are the very words—feel them out and see if they would adopt a different plan, a plan which would involve the use of Medical Society doctors, drawn through a panel of those doctors. That was the purpose of that meeting. No question of cooperating with G. H. A. as it was. That was settled in June. Now the sole and only purpose was to see whether they could not change the plan, to take the heart out of it, and save for themselves the business which they feared G. H. A. would take away from them.

I think I have reached a point now, your Honor, where a recess might be taken.

THE COURT:—Very well. We will take a recess at this time until 1:20, ladies and gentlemen of the jury. Please take note of that.

(Whereupon, at 12:20 p. m. a recess was taken until 1:20 p. m. of the same day.)

APRIL 2—AFTER RECESS

The proceedings were resumed at 1:20 p. m., at the expiration of the recess.

Mr. Kelleher:—Ladies and gentlemen, when we recessed at noon, I had just completed discussing the fact that the District Medical Society, through its executive committee, had decided as early as June 21 to oppose G. H. A. unless it changed its plan of having a salaried staff, and that they came to the meeting of June 24 with their minds already committed to this policy. After the meeting of June 24 the next meeting of the executive committee was on July 12, and, as you probably know because it has been repeated so much, at that meeting of the committee Dr. McGovern submitted the second report of his subcommittee, the report in the form of a letter from Verbycke to McGovern, and in that report were analyzed four alternatives of policy:

1. Approval.
2. A *laissez faire* attitude of let alone, see what happens.
3. Disapproval and active combat with every measure at our command.
4. Disapproval and the sponsoring, possibly, of our own plan.

Those were the alternatives of policy, and this is the way the report concluded:

"Approval is manifestly impossible. Disapproval and active combat is possible. Whether it is desirable without our own plan is another matter. Group Health Association could easily fail to be put on the approved list and lose consultation.

"The members of the staff of Group Health could fail to be put on the courtesy staff of the hospitals without the reason even being known. In fact, any of the above methods must be camouflaged to the nth degree."

And then the report goes on to point out that, in addition to this disapproval, perhaps some more desirable thing for the Society to do would be to formulate its own plan. McGovern at that meeting told the executive committee that his committee was nonplussed because it didn't know whether to fight G. H. A. with the weapons at hand or to adopt a plan of its own to combat the organization. Hooe told the meeting that as G. H. A. was then organized it would not be countenanced by the Society. Then Macatee said—Macatee, who is chairman of this committee to meet with the board of trustees of G. H. A., presumably to work out some form of cooperation—here is what he said at the meeting of July 12:

"I am going before those gentlemen and ask them whether they realize the threat to the success of the plan if it doesn't permit free choice of physicians. I am going to them and ask them whether they will accept the Society as the means for supplying this medical care."

Attached to those minutes is a so-called agenda for the conference with the board of trustees, and what other matters were to be discussed:

1. Whether the H. O. L. C. will accept the District Medical Society as the source for its doctors.
2. Whether it will consider abandoning its plan entirely if the Medical Society will adopt a plan of its own.

That is what the purpose of this conference with the board of trustees was. What they wanted G. H. A. to do was to abandon its plan because they had already committed themselves to the policy of opposing it if it went through as planned. That conference was held on July 26. At that conference Dr. Macatee called attention to the principles of medical ethics affecting contract practice, and he intimated most clearly that the Society would never approve of a plan as then organized. He asked them if they would not be willing to convert G. H. A. merely into a financial organization to collect dues and then to pay those dues to the doctors in the Society.

Verbycke said the trouble with this plan is, "No free choice of physicians." There is the rub. "Will you consider using the Society, all the Society's doctors in your plan?"

And naturally Group Health Association politely ignored their request; ignored it because to eliminate this salaried staff would be to take the heart out of the plan.

A special meeting of the executive committee was called on July 27, and again Dr. Macatee arose and said:

"This organization as planned violates free choice of physicians. No member of the Society may have anything to do with it."

Does that sound like cooperation? And at the same time McGovern submitted four possible causes of action, and they were:

1. To fight the organization through the constitution and by-laws of the Society.
2. To have our own plan with our own doctors; or
3. To fight it in the courts.

Every alternative submitted an alternative of opposition. At the first meeting of the Society had with reference to this plan on July 29, Dr. Macatee and Dr. McGovern reported on the conversations they had been having with the board of trustees. What occurred at that meeting? Conklin tells us in a letter which he wrote to Woodward; the recommendations at that meeting, he said, ranged all the way from various conciliatory measures—and he obviously meant the adoption of some plan by the Society—from various conciliatory measures to drastic boycotts.

At that meeting another subcommittee was appointed to consider G. H. A. and report back to the Society as to the policy which the Society should adopt. That subcommittee reported to the executive committee on September 8 and September 27, and both times it reported that G. H. A. was unethical, and at one of the two meetings it reported that no member of the Society can have anything to do with this organization.

Does that sound like cooperation?

In between the meeting of the executive committee on September 27, and the second meeting of the Society concerning this matter on October 6, an event occurred which galvanized the Society into action; and that was the publication of *THE JOURNAL* article of October 2; the article in which the defendant Woodward, acting with the authority of West and Fishbein, wrote that the salaried staff of this organization would no doubt be on the outer verge of ethical practice, if not beyond the pale; that members of the staff of that organization would certainly lose professional status. That was the spark that set the Society off. Four days later Groover came in with his resolution, which the Society adopted, and in which the Society stated that it was in full accord with *THE JOURNAL* article, both as to its facts and implications therein, and that it approved the report as representative not only of the methods to be used in combating G. H. A., but as to the ethical responsibilities of the Society's own doctors.

On October 6, then, the Society, after months of opposition, months when the only question was how they would oppose this plan, on October 6 at the suggestion of the A. M. A., this Society adopted as final the policy which resulted in these proceedings here in Court today.

Now, Mr. Lewin already has explained the hospital boycott, and I should now like to devote what time I have left to a consideration of what we term the consultation and staff boycott by the Society. In order to clarify this I think I must explain something about the so-called white list issued by the Society on July 29. There is no dispute in this case that on July 12 the executive committee of the Society approved this list of organizations contained in Exhibit 45 for the Government; nor is there any dispute that that list went to every member of the local Society and to every hospital in the city of Washington; and, of course, there is no dispute that Group Health Association's name was conspicuously omitted. This white list supplied the cornerstone for the boycott of the organization of Group Health Association. It furnished the method, the means, by which every result automatically flowed from the issuance of this. From the stand here Dr. Macatee denied that this white list in any way had anything whatsoever to do with G. H. A. I say that the combination of circumstances in this case, when weighed with that denial, completely refutes it. Before I point that out let me give you a little history behind this thing. It involved what you have already heard referred to as chapter 9, article 4, section 5 of the constitution. Section 5 was originally adopted in January 1936. It provided that no member of the Society could have any professional relationship whatever with any organization the profits from which did not inure to the benefit of the medical profession. That, I say, is section 5 as adopted in January 1936; and before I come to the amendment of that constitutional provision in March 1937 let me dispose of one false issue which counsel has attempted to project into this case. Counsel had witness take the stand after witness and deny that that constitutional provision was adopted for G. H. A. and thus attempted to make it appear that some substantial issue of the Government was refuted by these denials. I tell you ladies and gentlemen now that the Government at no time in this case, either in the indictment, in the opening statement to you, or at any time in the trial, took the position that that constitutional amendment, or the original constitutional provision, was adopted for G. H. A. specifically. The position which the Government did take is this: that the amendment to the constitution substantially changed the original provision and it did, for that reason, because the original provision was limited to profit-making organizations. The constitution as amended provided that no member shall have any professional relationships with any organization unless approved by the society, by the executive committee of the society.

Thus, in March 1937, one month after G. H. A. was incorporated, that constitutional provision was changed so that it was possible for the Society to control its members with respect to nonprofit organizations as well as profit-making organizations. And, bear in mind, G. H. A. was a nonprofit organization.

Now, let us see what the evidence shows as to whether this approved list had anything to do with G. H. A. First, the events and facts preceding the adoption and approval of the list. The evidence shows that the subcommittee of the executive committee appointed to approve this list consisted of three doctors, two of whom were the defendants Hooe and McGovern, with McGovern as chairman. The evidence also shows that prior to July 12, when this list was approved, there had been three meetings of the Society and numerous informal discussions concerning G. H. A. It shows that the defendant McGovern was chairman of the subcommittee which was appointed to study G. H. A.; was chairman of the subcommittee which on June 21 reported that G. H. A. was unethical and he, serving in this dual capacity as chairman of the subcommittee studying G. H. A. and chairman of the subcommittee to prepare and approve this list of organizations. The evidence also shows that, at two of these meetings preceding the adoption of this list, Macatee made those statements now so familiar to us. The two methods to combat G. H. A.; the two weapons which might be used by the Society, and one of those weapons was to discipline members; to prevent consultation—the very thing which failure to place the name of an organization on the approved list would inevitably result in. Those are the facts preceding the adoption of this list. This list, as I say, was adopted on July 12, 1937. Before the discussion concerning this, there was an elaborate discussion concerning G. H. A., because it was at that meeting that McGovern submitted his second report, his second report in which he outlined the four alternatives of policy, and in which he said this failure to place G. H. A. on the approved list—and there was no approved list at the time—failure to place it on the approved list would automatically prevent consultation; that, at the same meeting at which this was adopted.

After the discussion of G. H. A., McGovern was called on to report as chairman of the subcommittee to prepare this list. He explained how the list had been arranged. He explained the effort which he had made to obtain the names of those organizations and doctors on that list, and then he submitted the list for the approval of the executive committee. The list was identical with that attached to Exhibit 45 for the Government, except in one important respect; item No. 10 read, as submitted by McGovern:

"All medical personnel connected with the Federal Government."

The minutes show that Macatee moved to strike the words "connected with" and substitute the words "employed by." With that amendment the list was approved. His amendment was obviously designed to remove any question that might arise from the use of the words "connected with"; that G. H. A., or its doctors, were approved by this list, and then in the same discussion concerning this list we find that one of the members of the Executive Committee inquired about the medical personnel of G. H. A., and Dr. Hooe replied:

"It is a corporation; it must be approved as a single unit."

This is at the very time that list was being approved.

But it has been said that the reason G. H. A. was not on this list was because they had not asked for approval. There are two answers to that. Nobody was asking for approval. The minutes show that McGovern was going out making inquiries himself to determine who should be approved. He stated that he had contacted in writing the local medical societies in Virginia and Maryland; that he had not heard from them and, therefore, was going to make further efforts to approach them. That is the best answer. The second is that Dr. Brown had asked for approval. He told the members of the Medical Society on June 24—fifteen days before this list was approved—that G. H. A. wanted to go along with the Society; that he wanted to become a member; that he thought the other doctors would.

What more could this Society want than that? We have also heard it said that G. H. A. wasn't on this approved list because it was not yet in existence. The facts are that G. H. A. had been incorporated on February 24; it was looking for a medical staff, and what better time could there be to approve this organization than now, when the members were being approached to join the organization? What was the purpose of that if it wasn't to advise the organization with which they could have professional relation. Certainly if there ever was an appropriate time to deal with G. H. A. it was then; and, we say, therefore,

that when they left G. H. A. off that list they intended to deal with it; they intended to leave it off; they intended to do so because by that action they were able to prevent the members of the medical profession from having professional relations with G. H. A.

I think those circumstances are conclusive. But let me go a little further. At the meeting of July 29 Macatee addressed the entire Society concerning G. H. A., and there is a long paragraph in the minutes in which he outlined the plan of G. H. A., discusses it at length, points out that he considers the men who founded it honest, responsible, public-spirited men, who were trying to do something for their associates in the office; and immediately after this, and as part of his remarks, Macatee says this:

"The private list is now in the office of the secretary. I advise the membership to examine it carefully and familiarize themselves with its contents."

And he testified that the list he was referring to was Exhibit 45 of the Government. There is one other circumstance which completely repudiates any argument that could be made that this was not connected with G. H. A. In Exhibit 45 are three documents, two of which are letters addressed over the signature of Conklin to "Dear Doctor." The second of these letters merely calls attention to the fact that the executive committee had approved a list of organizations and quoted the section of the constitution dealing with that. That, one would think, would be adequate if the only purpose of this list was to call attention to the organizations on that list, but look at this first line:

"Also it may come to your attention that there is an organization or organizations interested in gaining medical personnel. Your attention is called to Chapter 9, Article 4, Section of the constitution,"

quoted in full; and Macatee, on cross examination, admitted finally that that letter referred, among other things, to Group Health Association, and he admitted that if the approved list was not adopted on July 12 as against G. H. A., it was directed against G. H. A. when it went out.

One other very interesting bit of testimony in this case. Woodward testified that he had been in Chicago at this time, the time this letter was mailed, and that he received this at his home, and then he said this: He said, "I took it to the office with me in the event that if I received inquiries about Group Health Association." How did he know this was directed against Group Health Association? He was here in Washington on July 14, two days after this was adopted.

As I say, the adoption and issuance of that list automatically prevented members of the Society from joining G. H. A., or from having any consultations with them or with that organization. It did so for the reasons I have stated, and it was intended to have that effect for the purpose of forcing G. H. A. to the wall. That is clearly demonstrated by Macatee's statement at the first meeting, that by preventing consultations the Society could combat G. H. A. He even went further. He realized what it would mean to G. H. A. if it was disapproved by a constituent body of the A. M. A., because he told the board of trustees of G. H. A., "You must remember that the A. M. A. includes one hundred and six thousand of the one hundred and sixty thousand doctors in the United States. All of those doctors are bound by the principles of ethics." And he said, "That leaves sixty thousand doctors, and even that field is narrowed because many of those doctors are inactive and unavailable." He knew what it meant to withdraw from G. H. A. every member of the American Medical Association by the simple process of omitting that organization from that list issued on July 29.

The evidence shows, ladies and gentlemen, that there were seven doctors, seven doctors at least, who either refused to join G. H. A. because it was disapproved by the Society, or who resigned from G. H. A. for the same reason. The first is Dr. Glen I. Jones, contacted by Penniman and Zimmerman late in the spring of 1937. He was interested in this plan, but he decided to scout around among the members of the Society to learn the attitude concerning G. H. A. He came to two of the defendants in this case, McGovern and Christie. They told him that they disapproved; they told him that the Society disapproved; that any doctor—that no doctor could take a position on the staff of G. H. A. and still retain his membership; that the Society could and would refuse to consult, and he turned the post down because, as he testified here, he was afraid the organization could not succeed if the Medical Society disapproved it.

The evidence shows that Dr. Tribble refused even to give advice or assistance to Dr. Brown because the organization of G. H. A. was disapproved. Dr. J. Keith Cromwell refused to take a position as obstetrician because the organization was

not approved; and the defendant Neill was also approached by G. H. A. It seems a little ironic now, but Penniman, Zimmerman, and Russell went to him some time before the clinic opened. There is a dispute in the evidence as to what position was offered Dr. Neill, but Zimmerman and Penniman testified they offered him the medical directorship; Brown denied it; and the minutes show that Neill reported to a meeting of the Society that he had been offered the post as surgeon. It is immaterial whether it was the directorship or whether he was asked to be the surgeon of this organization. The important fact is that he was interested at first, wanted the post because it was the sort of thing he was doing for a utility company here in the city, but said he had to consult the Society because he was a member. What is important is that he refused the post and addressed the meeting of the Society, telling them that he had refused. Why, he even went so far as to decline to go to the banquet of G. H. A. on October 29. He even was so discourteous as to refuse personally to acknowledge the invitation and instead, at the direction of the Society, had his secretary acknowledge the invitation and decline in the third person.

Francis Richardson was employed by G. H. A. in December 1937 to take house calls on a part-time basis. He worked for four or five months. Then when one day he met Mann and McNulty at Sibley and had a conversation with them, he resigned from G. H. A. and testified from that stand that he did so because he was afraid he would lose his hospital privileges. That is No. 4.

No. 5, Fred Hammerly, a doctor in New York, was negotiated with in New York concerning G. H. A. He wrote to West and Fishbein for advice as to whether he should take it. West replied G. H. A. was disapproved by the local Medical Society, and then he went on to point out that the United States Attorney and the Corporation Counsel had held it was illegal, despite the fact that his letter showed that he knew Mr. Justice Bailey had held that the organization was lawful, and that in July, Fred Hammerly didn't come with G. H. A.; and I saved the best for the last: Drs. Lee and Scandiffo.

Ladies and gentlemen, I tell you that it is a remarkable thing that these facts which I am about to recite, some of the most essential facts in the indictment of this case, stand substantially uncontradicted and undenied. There is no dispute in this case as to the following:

On November 29, Mr. Hayes, the local representative of the A. M. A. here in the District of Columbia, wired Woodward in Chicago the names of the staff of G. H. A. just announced; wires him that on that staff were Drs. Lee and Scandiffo. Dr. Woodward turned that wire over to Dr. West. West wrote Conklin on the same day, stating Lee and Scandiffo are members in good standing of the D. M. S.

October 29-November 3, the C. C. and I. N. Committee cites those two doctors before it.

December 6. The first hearing of the executive committee. December 16. Lee resigns before the second hearing.

March 16. Scandiffo expelled. No dispute about that.

You may take those facts to the jury room undisputed. Why, it is urged on you, and you are asked to believe that all that was intended in those proceedings was to discipline those doctors.

In his opening statement to you, Mr. Leahy said Dr. Scandiffo knew the rules of this organization. If he didn't want to comply with them, why didn't he resign, and the answer to that is this: that D. M. S. was out for bigger game than Lee and Scandiffo. The fact of the matter is that on Oct. 29, 1930 both Lee and Scandiffo did resign. They resigned on the advice of Brown, and because they feared disciplinary proceedings would be instituted against them, and the evidence in this case shows beyond peradventure that the Medical Society intended to deny them their right to resign from that organization. Why? In order to force them out of G. H. A.

As I have said, on November 3 Dr. Hooe cited Lee and Scandiffo to come before the C. C. and I. N. Committee.

On November 6 he and McGovern were in Chicago conferring with Drs. West, Woodward, Leland; and in the course of those proceedings, in the course of that conference, Dr. Hooe said this, in substance:

Two of the G. H. A. doctors are members of the D. M. S. They sent in their resignations. He knew it. He had the resignations then, as of November 3. They sent in their resignations, he said. The C. C. and I. N. Committee cited them to appear before it; they didn't appear, but one of them wrote and said that he had resigned, and then he said, "The C. C. and I. N. Committee unanimously recommend to the executive committee that disciplinary action be taken." That is on November 6—four days before they had withdrawn their resignations; resignations which that Society was obligated to

accept if all they were interested in was in eliminating members who refused to comply with the rules and regulations. He added one other thing at that Chicago meeting. He said a third member of G. H. A., a third member of G. H. A., applied for membership in the Society but withdrew his application; that nothing could be done about him "at this time."

That is the answer to any contention that all these defendants were interested in was to clear the Society of people who would not comply with their rules and regulations. All know that what they were after was bigger game, as I have said. They wanted by threat, the threat that by these proceedings these doctors would become professional outcasts; they wanted to threaten Lee and Scandiffo with that in order to induce them to leave G. H. A. and unstaff that organization. The very arbitrariness of the hearing shows it. Even while that resignation was pending Hooe's committee recommended that the executive committee take action. One of the charges against these doctors was that they had failed to file their G. H. A. contract with the C. C. and I. N. Committee. On December 3 that contract was sent to Hooe by both Lee and Scandiffo. It was ignored, and that hearing proceeded. Lee's resignation is such a conclusive answer that it is hard for me to believe that anybody can make any serious contention that this expulsion proceeding was not directed at G. H. A. The first hearing was held on December 6. Lee testified at the hearing. The next hearing was scheduled for December 10. In between that time Lee received a telephone call from R. Arthur Hooe. He was told by Hooe that if he would resign from G. H. A. the proceedings would be dropped and his membership unaffected. On December 6 Lee appeared before the C. C. and I. N. Committee. He submitted his letter of resignation, or a copy of it, addressed to Dr. Brown. In that letter he wrote:

"Because of the circumstances I am forced to resign from Group Health."

The C. C. and I. N. Committee was meeting in one room of the Society building, the executive committee in another room. At the meeting Dr. Hooe addressed a letter to the executive committee stating that the C. C. and I. N. Committee had just been advised that Dr. Lee had resigned from Group Health and that, inasmuch as the charges against him were based on the fact that he had a contract with Group Health, the C. C. and I. N. Committee recommended that the charges be dropped. The letter was taken from the room in which the committee was sitting to the room in which the executive committee was meeting. It was read to the executive committee in full, and then the minutes show this:

"When it was definitely ascertained that Dr. Lee was no longer with G. H. A., Dr. McGovern moved that the charges against him be dropped. Seconded, passed."

That disposes of Dr. Lee.

The proceedings continued against Dr. Scandiffo three nights, I think, with the defendant Reeves presiding as chairman, and a few days after those proceedings concluded, Conklin wrote a doctor by the name of Hale:

"Dr. Lee has resigned from Group Health; Dr. Scandiffo has continued with Group Health. He no doubt will lose his membership."

He did, on March 16, 1938.

Let me now touch briefly on the boycott against consultation. The principles of medical ethics provide that in serious illnesses doctors should request consultation. The Medical Society knew that Group Health Association would depend on outside consultations. In the October 2 article of THE JOURNAL Woodward wrote that G. H. A. would be handicapped by the difficulty rightly to be experienced in obtaining qualified consultants; and was it handicapped?

Mr. Penniman, late in November, came to the defendant Neill and said this: Mary Frances Stewart, our technician, became seriously ill one morning and was taken to one of the local hospitals. Dr. Schoenfeld was called in to operate. Dr. Schoenfeld, a member of your Society, refused to operate at first until he had learned that this patient was entered by Dr. Lee as his own private patient. Penniman was shocked. There was a warning to Neill of the seriousness of this consultation boycott. There was a warning that the risk involved was far too great to justify enforcement of the provisions of this Society's rule. Did Dr. Neill observe that warning? Let's see. In March of 1938 Dr. Price had a patient seriously ill with coronary thrombosis, and on March 24 that patient became so ill they decided to call in Dr. Thomas S. Lee, one of the prominent heart specialists in the city, and what was the result? Dr. Lee instructed him, "I can't consult with you; I can't see that patient in your presence because you are G. H. A." That was Lee's response.

Kirkpatrick wrote a letter to Lee inquiring whether Lee had stated the fact correctly to Price, and received a response, in substance, substantially to that effect but saying that the specialist had seen the patient in the absence of Price. Now, what is the value of such a consultation when face to face contact and exchange of ideas between the doctors is the purpose of the consultation? It is true that the patient got well, but no thanks to the Medical Society.

Dr. Price took the stand, and although he denied on direct examination that there had been any interference with him with respect to consultation, he admitted in substance, on cross examination, the facts which I have related concerning Dr. Thomas S. Lee. He also testified that a few weeks after this incident he had in G. H. A. clinic a woman, an elderly woman so ill with heart disease he was afraid she would die in the office of the clinic. He called Dr. Thomas S. Lee and received the same response. Price further testified that after that, after that there were probably other instances when he would have liked to call somebody into consultation, except for the experience he had had.

Those are the instances in this record. They show how effective, how ruthless, the enforcement was of this consultation boycott. They show that the cardinal principle of ethics, that the welfare of the patient shall be the paramount consideration, was thrown to the winds, was scrapped to enforce the other provisions of the constitution.

Early in 1938 there were various rumblings in the Society because there were circumstances that indicated that some of the members of the Society were secretly and surreptitiously cooperating with G. H. A. Mattingly, on February 2, sought to put a stop to it by introducing a resolution which required the appropriate agency of the Society to take immediate steps to ascertain whether members of the Society were parties to any secret understanding with G. H. A. This resolution was referred to the detective bureau of the Society, the C. C. and I. N., chairmaned by the defendant Hooe; and then the witch hunt among the membership started. Hooe did everything except put on a false beard and dark glasses. Secret telephone calls, in which he warned members that they were suspected and would be cited before the C. C. and I. N. His telephone rang incessantly with calls that Dr. So and So was helping G. H. A. Neill helped him on it by giving him a signed statement which I think said implicated two of the members. He was so zealous that he even had the Society pass a resolution prohibiting members from accepting checks from G. H. A., but finally after he urged members time and again to get evidence, get evidence, "hearsay evidence won't do, I must have positive evidence of the violations," he reported to the Society that he was unable to get reliable evidence, and the Mattingly resolution was tabled, but Mattingly wrote that this threat of action had corrected this clandestine operation by members "of our suspected body," and the tabling of that resolution didn't stop Hooe. He worked on; and then he got his man. He got him just as Lee and Scandifio, and that doctor was none other than Dr. George B. Tribble, whom you saw on the stand.

What did Hooe find? In May 1935 he found that six months before Dr. Tribble had operated on Louie Gilstrop, the son of a member of G. H. A.; had operated on him for an acute mastoiditis. Dr. Scandifio, the charge was, had been permitted to be present for a few minutes during the operation and, in addition, after the operation, Tribble had written to Dr. Brown concerning the facts of the operation. That was the charge. Tribble appeared before the C. C. and I. N. Committee. Hooe told him that constituted collaboration with G. H. A. Think how far they had gone by 1938. The mere writing of a letter to the medical director was prohibited by the C. C. and I. N. Committee. The C. C. and I. N. Committee found him guilty, perhaps unwittingly, and recommended disciplinary proceedings.

Then Tribble got busy because he was scared. He got affidavits from everybody and they confirmed his statement that it was a private case; that he had not helped G. H. A., and the executive committee let him off with a warning from Sprigg that he must never do that thing again, and on his promise that he would not collaborate with G. H. A.

Ladies and gentlemen, do you wonder that such is the fact, that G. H. A. was having difficulty in operating? Neill, in the winter of 1937, December to be exact, had stated, "I think we can break this organization entirely," and he was speaking of G. H. A.

McGovern in April stated in the Society meeting, "G. H. A. is licked. It is nothing but a bubble."

Why, ladies and gentlemen, it is a miracle that the doors of that clinic were even kept open. Doctors denied hospital privileges, refused consultation, beset by resignations. How

could any organization possibly give adequate medical care under circumstances like that, and when these gentlemen stand here now and try to defend this case with the contention that the care is inadequate, that merely proves that they accomplished what they set out to do. That was their aim and they had achieved it partially. Hurlbut, of course, and another member of the staff came there as assistants. Lee was overworked. He became discouraged and left. Who wouldn't? That that organization was able to keep a single member of its staff is hard for us to understand.

One other matter. Let me come to one other matter before I close. An excerpt from some of the minutes. The first is the very significant report of Verbrycke, or rather of McGovern, on June 12, 1937. Let me read to you a few paragraphs from that report, which demonstrate that what the defendants were seeking to do was to drive out this threat, this competitive threat to private practice here in the District of Columbia, and that is all they were interested in, and that accounts for every move that was made; and here is a document which reveals it to you:

"The present H. O. L. C. corporation is only a minor consideration. (a) Either innumerable others will follow, or (b) a large, all embracing organization will succeed all the smaller enterprises.

"The first eventually, innumerable others, is not of great concern to us. Competition will kill them, and since they can't be large enough to supply a proper quality of medical care and hospitalization on their own account, subscribers will withdraw."

In other words, we can compete with these small organizations; we do not have to worry about them. We do not have to worry about the quality of medical care; subscribers will come to us. Those plans need not be considered, but listen to this:

"However, if the second eventually should occur and one single, large cooperative to take in all Government employees should be formed, the considerations are entirely different and we must be prepared to admit the following:

"1. With size and a single large cooperative, its financial success is assured.

"2. It can secure enough personnel of good quality, even if not the best, either locally or imported, to assure its success from the patients' standpoint.

"3. Its own medical center and hospital can be obtained.

"The Medical Society must therefore adopt a definite policy toward the cooperative problem as a whole."

That is what they feared. They feared the success of this organization. They feared its quality of medical care would be adequate. They feared it would have the funds to go on. So they feared that if this organization got large enough and succeeded, it might withdraw from private practice Government employees who had been going to the defendants, and that is why Woodward wrote. And that is what he wrote on September 1 in his report to the board of trustees. He said, after calling attention to the fact that Government employees constituted a large proportion of the population of Washington, that G. H. A. might, according to its certificate of incorporation, seek to withdraw from the ordinary practice of medicine and cover into a group health insurance or group practice scheme and treat them through physicians hired for that purpose. He said:

"The effect of the withdrawal from private practice of even one half that number of persons, all of whom are able to pay for medical service, would materially diminish the incomes of the physicians in private practice in the District of Columbia and render it necessary for them to increase their charges or sacrifice the practices they have built up and go elsewhere."

And so, ladies and gentlemen, when you heard various remarks in the minutes by the speakers on the floor of the Society, you can attach to those remarks the significance which they really deserve. When you hear these matters, give them the significance which the Verbrycke report of July 12, and THE JOURNAL article, require.

Dr. Thompson, chairman of the executive committee in the Society, says:

"We must look to the future. These plans all threaten the coming generation of physicians."

McGovern:

"I look upon this G. H. A. plan as coming in and interfering with my business. I expect to be in private practice for another twenty-five years, and I do not propose, if it can be helped at all, to have this organization interfere with my work and income. What are you fellows going to do about it?"

There is the answer. There is the answer to free choice of physicians; to public policy; to the rest of the principles of medical ethics.

Ladies and gentlemen: Let your verdict be the answer to these defendants who would hide those purposes in the shelter of the Hippocratic Oath. I thank you.

(Thereon there was a brief, informal recess, at the conclusion of which the proceedings were resumed as follows:)

ARGUMENT ON BEHALF OF THE DEFENDANTS

WILLIAM E. LEAHY

Mr. Leahy:—If your Honor please, and you ladies and gentlemen of the jury, before I begin to sum up for the defense may I take this opportunity to say a word of thanks to you. You have been very kind. You have sat here with patience and attention and you have listened for two months to perhaps the most boring, tiresome testimony that any jury was ever called on to listen to. Necessarily, from the type of the case as it was presented by the prosecution—so many papers, so many documents, so many minutes, so much of what somebody said ten years ago, eight years ago, five years ago, and three years ago, with nothing but reading—I dare say you hoped that some day there might come an end to it.

Now it is necessary for me to stand here and bore you further with a repetition, perhaps, of what you have listened to for two months; and I dare say that sometimes your minds were in a delightful state of confusion where you wondered just where all these documents happened to fit into this particular picture that you were called on to look on, and then, as jurors, to decide.

You have just heard the oldest profession in the world castigated as though its members were common criminals. You have just heard every motive which has actuated a doctor in the practice of the ideals of his profession dragged down into the common mud and mire of cheap commercialism. You have just listened to a castigation of men who have been drawn into this court room as defendants, the like of whom no jury has ever been called on before to sit face to face with for two months.

You have heard two organizations of professional men which have had for their ideals the protection of your health and mine, the protection of the health and the welfare of the United States, condemned as if they all ought to spend the rest of their lives in disgrace.

There must be some reason for such a thing; there must be some reason why men are thus accused. We are all human, after all. We all have known the medical profession. The medical profession stood by every one of us when we came into this world, and some one of them will be standing beside our deathbed when we leave it. We know that doctors are only human, and we know that sometimes they are actuated by motives which we do not approve of, just as lawyers are, and no one regrets that more than the practitioner, because, after all, the profession of medicine has been inspired by the highest ideals under heaven, next to the ideals of those who attend your sick souls.

Why was it, therefore, that this heat was put into the argument in order to arouse you so that you could not review this testimony as jurors with calm deliberation?

I will tell you the reason. It is a reason which every lawyer uses when he cannot talk facts. It is the reason which every lawyer employs when he knows he has not a good case. It is the reason which every advocate employs to try to inflame the jury and get it away from the issues, in order that it may draw you into an unjust and an unfair verdict.

We do not need to employ the anger that counsel employed. We do not need to talk about honest men as lawbreakers. We do not have to employ language which says that every one who disagrees with us is a crook. We can stand here and sit here, as we have for two months, and look all this evidence calmly in the face and arrive at a verdict which we know is fair and honest and just.

An analysis of this testimony, ladies and gentlemen, will show you that the cause of your being here for two months was given you by the first witness on the witness stand, two months ago, and the answer to these charges was given by the last witness who appeared on the witness stand the last day we took testimony in this case.

I want you to go back with me for just a few moments in your minds and try to recollect with me the testimony of the old gentleman who came down here as the expert from Boston—Dr. Hugh Cabot.

Why, those men—and I am including now the defendants—those fine officers of the American Medical Association, these doctors who are members of the District of Columbia Medical Society, know more about the practice of medicine in five minutes than these lawyers could tell you about in five years. It has been their life work. They spent ten years to prepare for their practice, and then they pursued that practice; and for us lawyers to stand up here and talk to you ladies and gentlemen about the cost of medical care and the distribution of medical care is nothing but nonsense. Those men, including Dr. Hugh Cabot, could sit on that witness stand and tell you more about the theory and practice from actual experience—not from the standpoint, now, of one of the experts whom they produced, who has never done a day's work in a hospital from the practical standpoint and who, since 1920, has always lived off the income handed to him by some fund engaged in theoretical studies.

Those men know the practical side of life. They know what the actual practice of medicine means. They know whether you can get good medical care one way or another way—not from a theory, not out of a book, not out of a class of individuals who are drawn together to study. They know it from cold, hard facts. They have seen examples of the lack of good medical care. They have nursed back from illness to health those who have not had proper medical care. They know the reasons why. And in endeavoring to lay a foundation back there, when I asked you to go with me in your recollection, the question was asked of Dr. Hugh Cabot, laying a foundation for this G. H. A.—

"Doctor, is there any danger in these groups from the interference of a lay board?"

The answer was a rather unexpected one. He said, "Yes; there is."

It was the interference of the lay board of G. H. A. which put you ladies and gentlemen in this jury box. If G. H. A. had left this matter to that grand old man sitting right there now in this court room—Dr. Brown—you would not be here. But it was due entirely to the fact that Zimmerman, Penniman and Kirkpatrick had determined in their minds that they were going to do something. And then Zimmerman spent about two days, if you recall, down at Stanocola, in New Orleans, and he came back with all the knowledge in the world about group medical practice.

Penniman told you on the witness stand that he became connected with this matter as early as January 1937. Kirkpatrick came in a little later as the second president, but was on the first board of trustees. Those three men, the lay board of trustees of G. H. A., have brought you into this jury box when, if they had followed the advice of Dr. Brown, the Medical Director, there would have been no trouble whatsoever with G. H. A. and none of the squawking complaints that you have listened to here that remind you in retrospect more like children crying than as men who were honestly trying to seek and practice a lofty ideal and ambition.

Dr. Cabot warned them. He said, "Yes; the interference of lay boards of trustees is extremely liable to happen in groups of this kind." It did happen.

Now, let us grow up with the baby for a while. Zimmerman had been down to Stanocola. Before he came to work for the H. O. L. C. he had been with some oil company out in the West. And, ladies and gentlemen, let us not have our minds confused about this group practice or these industrial groups.

Do you remember Mr. Laux when he was on the witness stand, who worked in the department headed up by Dr. Leland? Do you remember that he told you that he personally had studied four thousand such plans. You might think G. H. A. was the only plan that had ever been put on foot; you might think nobody had ever heard of such a plan before. Mr. Laux, their own witness, said that in the four and a half years while he was studying plans under Dr. Leland's supervision, he had probably written from eight thousand to ten thousand letters.

They went through Mr. Laux' files from A to Z. You saw on the corner of some of the letters which were read here, and perhaps you may have forgotten it, a numeral. I tried to bring it to your attention. I said, "What does that stamped numeral mean on the corner—705, 1,006?"

"That is the number of the documents which the F. B. I. withdrew."

This case has been combed from the start out of documents; and I want to ask you this, as a man talking to you, the jury, if it was not left for the defense to produce the facts. They produced minutes and letters, all one sided; not the letter written in the first instance, but the reply, so that they could draw from that letter any interpretation which they wanted to put on it; and it was left to us to go out and comb Wash-

ington, find nurses, find young interns to tell you properly what had taken place about Miss Abbott and the rest. But we will discuss that later.

We had to go and bring their own doctors to the witness stand. They would not even bring a doctor from their own clinic on that witness stand, and we had to do it for you.

In other words, the facts in the case were developed from the defense; and that is exactly what your attention was being drawn to when Mr. Laux was here, because he had examined four thousand plans similar to this, and yet they have the temerity to stand up here in front of you and tell you that the American Medical Association was opposed to group practice from the beginnings.

Why, Dr. Cabot is a member of the American Medical Association this very day. Dr. Cabot told you he had his own clinic in Boston. The President of the American Medical Association has his clinic in Boston. The Mayos were presidents of the American Medical Association, and they have perhaps one of the best known clinics in the world.

Yet the prosecution tries to persuade you that over this period of time the American Medical Association was opposed to group practice. Bosh! Nonsense! And they know it. They know it is not true.

Dr. Cabot had been on the stand hardly an hour and a half before they shifted the whole picture of the prosecution. In their opening statement they tried to make you think that we were opposed to the Mayo clinic, that we would have nothing to do with the Mayo clinic; that the G. H. A. was formed like and similar to the Mayo Clinic, because they knew that practically every person in the United States has heard of the Mayo clinic, and that if they could persuade you that we were opposed to something like the Mayo Clinic, then they knew they were talking about something about which you knew and it would be very effective.

You were told in the opening statement that group practice such as G. H. A., had come up in the last ten years. Dr. Cabot described to you that group practice extended back over a hundred years. Of course it has. Nobody denies that. There have been groups of doctors operating; but this particular kind of group practice, Dr. Cabot said, was known only in the last decade; it was still in its experimental stage. In fact, he said that he had himself collected together a committee of doctors to study the principles under which this particular kind of group practice should operate. I asked him the question, if you will recall, "Who were on that committee, Doctor? Did you have only doctors?"

"Oh, yes. There was only one who was not a medical doctor, and that was a Ph. D."

He appeared on the witness stand. He was not a medical doctor. He was the one who was acting as secretary of the committee. But when that old gentleman from Boston wanted to collect together a group of doctors to study how to formulate a group practice plan, did he get three gentlemen working in H. O. L. C., or did he get five doctors who knew something about the distribution of medical care and what it should be?

On his own clinic in Boston does he have a lay board interfering between the patient and the physician? It is all doctors, and they are doctors who have qualifications in the hospitals. Every one is qualified for hospital practice.

They asked him, "Oh, but didn't you have some difficulty with your local medical society?"

"Oh, no; none whatsoever."

There is not any reason why this case should have been here in this court. The whole thing is so unnecessary, to bring doctors to the humiliation of a trial as criminals when it is all due to the interference of the lay board of G. H. A.

And I am bringing you back to the point, now, where we started, in order to show you just exactly how that interference came about.

The argument was just made to you that the District of Columbia Medical Society, back in June, in an executive committee meeting, came to a position of determined opposition to G. H. A. I will tell you that the testimony is that as early as January 1937 G. H. A. came to the determined opposition of the Medical Society.

Why do I say that? You remember, probably, one of the doctors who they said was drawn away from G. H. A.—Col. Glenn I. Jones. You remember when Colonel Jones was on the witness stand. He is the first doctor who was approached to take the position of Medical Director of G. H. A. You remember that Mr. Penniman and Mr. Zimmerman went to see Surgeon General Reynolds of the United States Army, and Surgeon General Reynolds referred them to Colonel Jones, because Colonel Jones was retired; he had the proper qualifications, and Surgeon General Reynolds thought that he would make an excellent director. At that time Mr. Penniman and Mr. Zimmerman

asked Colonel Jones to draft a plan of organization, and Colonel Jones said that the first thought that hit him right between the eyes was that no plan of distribution of medical service to anybody can possibly succeed unless we have the best doctors in the community.

Now, it just happens that the best doctors belong to the District of Columbia Medical Society. We do not apologize for that. If all of the best people collected together into an association in order to advance the interests of medicine—and you will remember that the first article in the constitution of the American Medical Association was and is only to promote the art and science of medicine and the general public welfare. That has been there since 1847. I wonder if they accused us in 1847 of having put that article in there because in 1937 Group Health Association was to be formed. In the District Medical Society we have the same purpose, to promote the art and science of medicine and the general public welfare.

But they say, no, that is not our purpose. It is cheap commercialism. We are afraid of competition. We are afraid of a dollar that somebody may take away from us. We are afraid of a group that might get together and that would not have our rent to pay.

We adopted those constitutions, one in 1819 and the other in 1846, operating as the sole guide as to ethics, and their morals and their standing have now been accused before you of being cheap commercialism, or being in cheap competition as if they were selling tobacco or cigarettes off a shelf, as if they had no thought in mind that when they are sitting at your bedside, after all maybe they are interested in seeing you get better. Maybe they are willing to miss a baseball game or theater if they can sit beside you and maybe bring you back to health.

No; they want to wash that out of the picture. The true picture, the true purpose for which these men are organized covers every act they did in this case, as you will come to see.

To return to Dr. Glenn I. Jones. I do not know anything more about the practice of medicine than you do, not one whit or one bit, and I would not propose to stand here and tell you that I knew anything more about the practice of medicine than you know yourselves. But as men and women we know that if someone is going to distribute medical care, I don't care whether it is an experiment or an accomplished fact, it has got to be done by good experienced men. It is a pretty dangerous experiment, toying around with human life. Wait to see whether the experiment succeeds. The success of the experiment probably is buried over in the grave yard. We never know. But we do know this, that when people are ill, when they need professional care, then in the words of Dr. Glenn I. Jones, we need the best in the community to back up and head such an organization.

What did he do? He did just what you would do if you were called on, if you were a doctor, to head an organization. Would you not go around and talk with some of your friends whom you had known for a long time, who were young practitioners when you were? Would you not go and say to them, "Well, Bill, what do you think about this?" Or "Jack, do you think we can make it go? Is it sound?"

He did just that thing. He went to see Dr. Christie. He had known Dr. Christie twenty-five years. He went to see Dr. Groover. He had known him for twenty-five years. He went to see Dr. Charles Stanley White. He had known him for thirty-five years. Not a single one of those gentlemen was talking for the District Medical Society or for any purpose except sitting down there with Col. Glenn I. Jones, their old friend of twenty-five and thirty years' standing; and they talked the matter over, as he said, for about an hour, and all three of those men said they did not think that the scheme as outlined would receive the support of the District Medical Society because they did not think it would work. And to repeat Col. Glenn I. Jones' statement, "Right then and there my participation in that scheme began to cease."

What did Jones do? Jones went back and told Penniman and told Zimmerman.

Now, let me ask you this. After all, we all want to be fair. We do not have to indulge in exhortation of anybody. We do not have to call names. But you can sit there and I can stand here, and be fair about this matter.

Don't you think that if Penniman and Zimmerman wanted to start a medical organization in the District of Columbia they ought to have talked with some doctors? Am I asking something that is unreasonable? Don't you think that an organization which is going to give medical care to the people of the District of Columbia ought to have the advice and information of the doctors of the District of Columbia? Dr. Cabot said so.

What does he do? Immediately following the information which Colonel Jones brought to Zimmerman, he calls for a

meeting. And where? In his apartment. With whom? He has Admiral Rossiter from the Navy; he has Reynolds, Surgeon General of the Army; he has Cummings, of the Public Health Service, and he has our own Dr. Ruhland, our own District Health Officer—the same office that Dr. Woodward once held here. They met in the apartment and Jones again discussed it with them and he again told them it was absolutely necessary, in order for this scheme to succeed, to have the very best doctors, and that anybody who dared to start an organization to administer to the public health without the very best doctors they could get would be perpetrating an imposition and a fraud and ought to be opposed and stopped in the public interest.

What happened? From that meeting Colonel Jones dropped the entire organization.

Surgeon General Ireland, on the 27th day of March, wrote to Dr. Cutter and said that they had discussed this matter and concluded that it was an entering wedge to state medicine.

I said, "Colonel Jones, do you think state medicine is in the public interest?" And he said, "Absolutely not."

Major General Ireland used the phrase, "They dropped it like a hot cake."

Colonel Jones said, "No; I didn't use that phrase."

But he did drop it like a hot cake.

Is it not strange that out of this great idea, this thing that exploded spontaneously, you never have seen Admiral Rossiter on that stand; you have never seen Surgeon General Cummings on the stand, you have never seen Dr. Ruhland on the stand? But you have never seen a man in a responsible position who, as early as March 1937, knew the inside of G. H. A., who connected himself with it whatsoever.

Even after Colonel Jones had told Penniman and Zimmerman that he had information that these finest of our surgeons and doctors in the District of Columbia could not agree with the scheme did they even then go to the District of Columbia Medical Society? Did they call up a single District Medical Society doctor? Did they have a conference with a single soul? Not one. They went ahead, determined to put that scheme through, because Zimmerman had spent a couple of days down in New Orleans—can you imagine that? Supposing all of us right now walked over to the Endicott-Johnson shoe factory, or went over to the Ross-Loos Clinic, or even walked over to a hospital and saw it in operation. Do you think any one of us would know how to run that institution? Every last one of us has been in a hospital at some time. What do you know about its running?

But Zimmerman came back, and he knew it. But in March, down to the time that Dr. Brown was employed, not a single man in the District of Columbia was approached to become the Medical Director. Not a single word of advice was sought. Not a single bit of information was given until in June Dr. Brown was appointed the Medical Director.

There was not a single one of these defendants, not one of these organizations that as an organization or as a defendant knew a single thing about Glenn I. Jones until about the 26th day of May, when Jones himself, I presume, feeling as a medical man, having spent most of his life in the United States Army, having been an experienced surgeon and physician—I suppose he felt that somebody in the District of Columbia who knew something about the practice of medicine ought to be advised of what was going on.

Now, they sneer at Surgeon General Ireland who said he was going to wise up some of the local doctors.

Every little word, every sentence in letters between old friends, is given another meaning. Ireland had been on the committee out there with Dr. Cutter for years and was writing as one friend to another, and then four or five years later they pick up his letter and they want to put a sneer where none was meant. You know what Surgeon General Ireland referred to. He referred to the visit of Glenn I. Jones to Dr. Gerry Morgan's office on May 26, 1937, when Colonel Jones told Dr. Gerry Morgan, Dr. Macatee, Dr. Christie and Dr. Groover what was going on in the city of Washington, and about these men inspired with a lofty ideal to do humanitarian good to a large group of citizens, but who refused to tell.

I want to ask you now, in all fairness, don't you think that all of the doctors of the District of Columbia are rightly interested in a group which is going to take care of thousands or hundreds of thousands of people in the District of Columbia?

I think it was one of the saddest bits of testimony in this whole case when Dr. Groover was referred to, and it was difficult to restrain your honest indignation when you heard the motives of that man dragged across the floor of this court room as cheap commercialism. He sat down there on July 26

and told them, "I am through. I have not more than four or five years to live. Therefore I have no personal interest in what you do. I want to tell you that the medical profession of the District of Columbia will not be threatened if you know that the quality of medical care will be assured."

He was a prophet of his own passing; and even though he could not testify or talk to anybody, nevertheless those words of that dead man stand out here as the answer of an attorney who would come before you and try to degrade the entire profession of the District of Columbia and its practice by saying that such men as these, men who have been our honored citizens in this city ever since you and I have been here—most of these men on whom you are sitting in judgment now have practiced medicine more years than you have lived. There has not been a finger pointed at these men until this G. H. A. finger was pointed in scorn and condemnation. These men have taken care of more people, perhaps, in the District of Columbia than all the G. H. A. membership put together.

But we will return to that meeting of July 26 before the board of trustees of G. H. A. The meeting on the 26th day of May, when Dr. Glenn I. Jones made up his mind months before to have nothing to do with the project, was the first information which any one in the District of Columbia, in the District Medical Society, had heard, with the exception of Drs. Christie, White and Groover, when Glenn I. Jones first asked their advice about the matter.

Can we not differ in our opinions? Has it come to this, that because G. H. A. is involved we cannot have a difference of opinion about it? You know that somewhere, written into the Constitution of the United States, is the fact that our citizens shall enjoy freedom of speech and freedom of the press. Under our form of government we still have a right to think; we have a right to express our thoughts; we still have a right to write and print. Newspapers still write as they think they should. Magazines still publish articles. You and I read them. There are disagreements among them, but we still do not go to a concentration camp or back up to a wall because we happen to disagree with someone else; and unless in our speech or unless in our writing we are violating the law, unless we are doing something which we ought not to do in violation of the law, then we have the right to talk, thank God!—because that is a right for which men died in order that you might be sitting here in this box as twelve citizens, jurors, to find a verdict in this case.

These men are criticized because they wrote letters saying, "We don't agree with G. H. A.," and counsel say that they ought to be condemned as criminals, that they should be pronounced guilty. Guilty of what? Guilty of exercising a higher right than the anti-trust law gives anybody. They are exercising a right for which men fought for years, and this today, perhaps, is the only country in which we have that right in the freedom of its full exercise and its full enjoyment.

What is the next thing we see after May 26? Dr. Macatee comes before an Executive Committee meeting of the District Medical Society.

Some of you men, I suppose, belong to some organization; I don't know. But if you do, you know that the organization has committees, and you know that the committees are given jurisdiction, as we call it, or given authority to go out and make an investigation here and make an investigation there and make a report. That is what their right is and that is what their duty is. Their duty is to make an investigation and to make a report; but they cannot bind the organization. Not until the organization to which you belong votes to adopt the report and to bind itself by the report, does the report become of any importance whatsoever in so far as the organization itself is concerned.

Dr. Macatee made a report, and Dr. Verbrycke produced what was the first information which the Executive Committee of the District Medical Society had about Group Health Association. This, now, is the Group Health Association which has been represented to you as wanting the cooperation of the District of Columbia doctors, and this document has marked on it "Confidential. For private use only." Here is a copy of it (indicating) which was introduced in evidence. This is what Dr. Verbrycke produced. There is no use holding back these things with any air of mystery about it. There is not anything in this case that we cannot explain.

Is it not strange, if all of these men over here (indicating defendants), honored citizens of this community, were engaged in the commission of a crime? Is it not strange that if they were you would find all these letters? They would have been in the mouth of a furnace, or they would not have been written in the first instance. Men engaged in the commission

of crimes do not leave a stack of documentary evidence as high as this railing, that it took, I think, two weeks to read to you.

Did you find any documents that Penniman or Zimmerman had written—or Kirkpatrick? I am going to contrast that with you before we get through. I want to show you the difference between honest, straightforward men who are honestly trying to find out what to do in a situation which suddenly confronted them in this fashion, and the situation of men who built up a record for themselves and who did not write, because if they should write somebody might find what they had written.

This document is marked "Confidential; for private circulation only." Why? Why should it be confidential if it is something in the public interest? If they are now engaged in performing this experiment which, as Mr. Kelleher said, was a further advance in medicine where the fee-for-service practice—I think that is what they like to call it—had fallen down, what in the world are they circulating it so confidentially for? Wouldn't you be interested in knowing about it? I would, if I could get my doctors' bills paid for \$3 a month; I would be there in a minute, and I think most everybody else would. I would like to know about it; I would be only too glad to know about it.

But that is what was produced, and the Executive Committee sat down and looked this over. No one had seen it before. It contained some very interesting matter. I am not going to read it to you; it would take too long to do so. It states that the smallest number of enrolled persons employed, supporting a medical clinic or group, should be approximately ten thousand. But they started right out with nine hundred. They had all these things in here to look at. They sat down and discussed the matter, and then they say that Dr. Macatee said, "We have two weapons." Oh, how they like to seize on that language! It was contained in an abstract of minutes of that meeting. But they entirely forgot something.

Dr. Macatee appeared here before you. He is one who perhaps had more to do with Group Health and the attitude of the District Medical Society toward it, up until the 6th day of October 1937 than any other single person.

I showed him the words in the report. He said, "No; I didn't use that language."

And you remember the young lady who took down the minutes of the meeting of the Society. She told you that it was almost impossible for her to get all that was said; the best she could do was to transcribe what she thought was stated, and then Dr. Conklin came along and he corrected it. If it did not jibe with what his recollection of it was, then it was corrected. In the Executive Committee Dr. Conklin alone acted, and he was writing down what he thought someone else said.

Dr. Macatee told you what he did say, and he said he did not say any such thing.

Counsel handed the minutes of the June 1st meeting to Colonel Glenn Jones, and with a great deal of expectancy and assurance they pointed out what the minutes said, and they said, "Colonel Jones, will you kindly look at this place here and tell us about that?"

Colonel Jones looked at it and said "I don't know what it means. Who is supposed to have said it?"

And yet he is the man who is supposed to have said it.

There is a danger in the type of testimony upon which they ask you for a conviction in this case, because they are minutes which were written back three years ago, some of them almost four years ago. Not what people said, but what people thought was said. But right then and there Mr. Kelleher told you that the Executive Committee of the District Medical Society took a firm, determined purpose that it was going to restrain G. H. A.

Let us see what happened. What did it do? Did it appoint a committee to try to find ways and means of keeping G. H. A. from coming into existence? Did they appoint a committee to go around with black glasses and a beard and try to find out what G. H. A. was doing, in order to stop it before it started?

If they wanted to restrain G. H. A., the time to have done it was then. That is when they ought to have worn black glasses and beards. The whole Executive Committee should have had them and played detective—such as Dr. Hooe was painted to you, when his telephone was so busy that he was almost out of breath and the phone was hiccupping call after call.

They appointed a committee to investigate and report back, and the committee made its investigation. And then these men who wanted to restrain and to destroy G. H. A., these men who

did not want this group to come into existence, these men who did not want a doctor on the staff, these men who had refused to consult with the doctors after they were appointed, these men who wanted to shut the hospital doors to all G. H. A. patients and doctors alike—what did they do? They invited G. H. A. to come up and talk to them.

Conspirators? Is that the way conspiracy starts? Is that the way opposition is conceived and then put into practice?

They invited those men to come over, and they said, "All we know about you is what we have heard from Glenn I. Jones and from the document marked 'Confidential; for private circulation only.' Come over and tell us what your scheme is, will you?" And they accepted that invitation. Penniman, Zimmerman and Dr. Brown came over to the District Medical Society. And here comes the first disagreement in the testimony in this case. Dr. Brown, the first Medical Director, a gentleman who has already lived as many years as I hope each one of you will live, who has spent one of the most useful lives in the practice of his profession that any doctor could possibly spend, who, when he goes down to his final reward will go down with a life well spent back of him—he told you that he believed in the group practice of medicine on a prepayment plan, and he said, "I still believe in it."

And then I asked him as the first medical director, the man who opened their clinic, the man who purchased their equipment, the man who was formulating their staff, getting their nurses together, seeing that the clinic was properly laid out—I asked him if he remembered the occasion when those three men went to the District Medical Society.

Up to this time the District Medical Society had done nothing, because it had no information upon which it could act in any way. Those men were honestly seeking a bit of information about which they might advise the District Medical Society. And Dr. Brown said, "Yes. We all met for a dinner at the Mayflower Hotel, and it was agreed among us that we would tell them nothing, and just before we went into that meeting the admonition was repeated—'Now, remember: tell them nothing.' In other words, let them do the talking, but don't tell them anything."

Mr. Penniman and Mr. Zimmerman say that that was never said. The fact of the matter is that they told them nothing. In the broadest kind of language they answered questions.

Why a meeting at all? Why should the three of them go to dinner just before they went up to the District Medical Society? Why didn't they do what you or I would have done—go up there and meet with the District Medical Society and go in? Why should they all meet to prepare and map out a course of conduct at this meeting over at the Mayflower Hotel before they walked over to the District Medical Society office? Why should they then say, "We will tell them nothing"? And that is just what they told them—nothing.

Mr. Penniman told you on the witness stand—and don't let anybody think that Mr. Penniman is not about the smartest witness you have ever seen on the witness stand. He has a magnificent presence; he is a fine looking gentleman, and he is well schooled in experience. He used to sell investments for Blythe & Company at 120 Broadway. He knows how to weigh his language. He is a good salesman and he knows how to make a sale. He told you that he was particularly interested in getting Dr. Neill as the Medical Director. Dr. Neill was the president of the District of Columbia Medical Society, and he said that he and Zimmerman and Russell went up to Mr. Childress' house; that Mr. Childress was the liaison officer between H. O. L. C. and Congress; that Childress was a close personal friend of Dr. Neill, of long years' standing, and there they asked Dr. Neill to become Medical Director.

They never asked him any such thing. When we called Dr. Brown, Dr. Brown said, "Why, I was already the Medical Director."

They would have you believe that Dr. Neill refused to become the Medical Director of G. H. A. because it was along this line of restraint of G. H. A., when the Medical Director already appointed was sitting right in the group with them; and they never denied it.

You know, there is not so much in this case as there is out of it. There is not so much evidence brought to you ladies and gentlemen as there is that which has been restrained and pulled back. It is not the restraint of G. H. A.; it is the restraint of testimony, because where the testimony is not in, then you can argue inferences. That is the danger of circumstantial evidence, because with only circumstantial evidence before you, then the one who can draw inferences the most convincingly from what is in is the one who is liable to convince you that his interpretation is correct.

We could have found out whether he was there or not. They could have found it out in the easiest way in the world. We called Dr. Brown. We were not afraid to produce anybody on their staff, and everybody that we could get from their staff we brought in. They did not. Where is Mr. Childress? That is the man who can settle that difference in the testimony. There is the man who could tell you, the liaison officer between H. O. L. C. and Congress, the first assistant to John H. Fahey, the man who proposed the conference. If Dr. Brown is not accurate in his memory, why have we not had Mr. Childress here to tell us about it?

Now Mr. Kelleher says that it makes no difference, because he did not become surgeon. It makes all the difference in the world, because they ask you to rely upon the recollection of Penniman and Zimmerman over against the recollection of Dr. Brown, and you know that if Dr. Brown was the Medical Director and was sitting there in the conference as Medical Director, they never asked Dr. Neill to become Medical Director, and he never refused, because he was never asked.

They say it was a long, extended meeting, and they were told that H. O. L. C. had financed it for a couple of years. How much? For what purpose? What was the amount?

You remember that on cross examination I asked the witness if he did not remember sitting there with his pencil and paper figuring out the number he had in the clinic and how economically they could give the service which they said they were going to give, and what they were charging, and he said, "Yes; I do remember that."

What were those men trying honestly to find out? A way to restrain G. H. A.? Or were they trying to find a way of killing it off before it started? Almost the last thing that was said at that meeting was, "If we can get together on this proposition I think we will have attained a great social service."

And then these men who wanted to restrain G. H. A. and to destroy it, said, "Won't you entertain a committee from us so that we can talk it over once more? Won't you let us come down and sit down with you and discuss this matter further? Let us see if we cannot do something."

Finally they said yes. The committee which had been appointed was still functioning. One of the arch conspirators, Dr. McGovern, was on that committee; and Dr. McGovern wrote on July 15 to Mr. Penniman and said, "Mr. Penniman, won't you supply us with a copy of the by-laws? Won't you supply us with the contract under which your proposition is being financed?—because if it is not being properly financed it cannot do what it promises to do. Won't you give us the contract between your members and your association?"

Dr. McGovern wrote that letter and it is here in evidence. Did Penniman write a reply? Not much. He was too smart. He called Dr. McGovern, because we do not trace telephone messages except in our memories, and one man's memory is as good as another's when he comes to the witness stand.

Then they arranged a luncheon. He said, "Come on down and we will talk it over at lunch." And McGovern went down. When he went down did he meet Penniman? No. He met Penniman and Zimmerman—so there could be two who could remember against McGovern, who would be alone. Did they supply him with a copy of the by-laws? Did they give him a copy of the contract? Did they supply a copy of the contract between the subscribers and the association?

They supplied him with absolutely nothing.

And yet he had the audacity on July 26 to suavely state to the committee when it came down there honestly seeking to obtain information, "We laid all our cards on the table."

All but three that he held up his sleeve, the three important ones.

And then I asked him on cross examination, with reference to when Dr. Macatee was talking to him down there as one of the committee, "Don't you remember that he raised the question of the legality of G. H. A.? Didn't he say that in most of the states of the Union it had been held that a corporation could not practice medicine because a corporation cannot take a license out to practice medicine?"

And I asked him, "Don't you remember Dr. Macatee said, 'Give us some help on this, will you?—because there never has been a decision in the District of Columbia upon it.'"

He said, "Yes; I remember. We had the idea that you wanted the contract and you wanted the by-laws and you wanted this other information so you could test the legality of G. H. A."

And he positively and absolutely and purposely refused to give that information or any assistance or cooperation to that committee of reputable, honest, decent men here in the District of Columbia, just as positively as it was possible to give

a refusal, with those honeyed and mellifluous words; and when the meeting was over he thanked them for having been down there. But what did they get?

Dr. McGovern reported back that he could not get the contract; he could not get a copy of the by-laws.

Mr. Penniman was on this witness stand before you—and I wonder if he thinks that you cannot see through these things—and he said, "I knew they could get a copy of the by-laws, because we had several hundred of them printed and they were distributed to the members of G. H. A." I said, "Did you supply a list of the members to the Medical Society so that they could go to somebody and get it?"

"Oh, no."

His excuse for the nonproduction of the contract was that he would have to get the H. O. L. C. board's approval to surrender it. And then ten minutes later he told us that it was in connection with Dr. Macatee's statement, that they figured that perhaps Dr. Macatee was down there trying to trick them, trying to find some excuse to get something on them.

Now, ladies and gentlemen, this business of restraint has been the bugbear of G. H. A. in the minds of Penniman and Zimmerman ever since the beginning. That is all they have talked about. They said, "Oh, you are trying to restrain G. H. A." And as far back as July 26 Penniman is so suspicious that he won't give a copy of the contract or of the by-laws to Dr. Macatee.

You saw Dr. Macatee on the witness stand. He was there two days. Do you think he is a crook or a trickster or a conspirator? Or is he a man who is practicing his profession here in the District of Columbia and has for forty years, who has held the highest office which his own District Society could confer upon him, who is a delegate to the House of Delegates of the American Medical Association for the District Society, who has high office in the hospitals of this city? If that is the kind of man they say they thought was trying to trick them, I wonder if what Dr. Tribble said is not apropos: "Evil to him who evil thinks."

Those men went down there trying to get a bit of information in order to report back to the District Medical Society. All that the District Medical Society had done was to appoint a committee to try to get information.

In the talks back and forth in some of these committee meetings you will find that A said this and B said that. They had a right to discuss it among themselves, just as you in your jury room will discuss this matter, and finally the only effect of it all will be a verdict. It will not be what you said or the other one said, if someone wants to attack the verdict and say, "Oh, you said this" or "You said that."

They bring in the minutes and say, "Oh, the Doctor frankly said 'We have two weapons which we can use.'"

Can they show that he repeated that on July 27 when he reported what had occurred at the meeting on July 26?

They had no more information. They did not know what to do. So they called a special meeting of the District Medical Society. This is the first time the District Medical Society had met, because it was summer. Nobody sits around in meetings in Washington in the hot summer time. And they met in a special meeting in the latter part of July and they reported to that meeting, and here were the conspirators, McGovern and Macatee, and Dr. Macatee said that he thought they were high-minded, civic minded men and that they really believed that what they were trying to do was right. McGovern made the same kind of statement.

And those are the men who are charged as conspirators, trying to restrain G. H. A.

Dr. Macatee said that these men perhaps had heard of other cases in which some medical society had taken action against them, and maybe that was the reason why they did not want to give the Medical Society the information requested. Of course he did not know what Penniman had told you. If you sought the world over you could not find a more honest, fair statement than Dr. Macatee made or Dr. McGovern made.

Does that show ill will? Does that show a purpose to destroy? Let Mr. Kelleher answer it now. He says that away back in March or April they had formed the idea of trying to restrain and destroy G. H. A. But the chairman of the committee, the man who was appointed as the spokesman for the committee, reported back that he thought these men were high-minded and fair minded. Now these doctors sit over here as defendants charged with a conspiracy to destroy G. H. A.

If Dr. Brown had been let alone, if Dr. Brown had been given the right to go among the hospitals, as he started to do; if Mr. Penniman and Mr. Zimmerman did not think they knew more about medicine and its practice than Dr. Brown did, who had been in charge of Government hospitals for twenty

years, under the Veterans Administration, who knew more about hospitals in five minutes than Penniman and Zimmerman will ever know; if they had let Dr. Brown alone there would not be any such difficulty as this.

Don't you think I am reasonable in asking you this question? If a group of men wanted to start a clinic, if they wanted to hire a staff of doctors—they must have known that somebody was going to be sick, because nobody would come to a clinic unless he was sick, and some of those in the clinic would need hospitalization—do you not think it would be reasonable that the first thing they would do would be, as Dr. Cabot did when he started his clinic, to get members connected with various hospitals, so that they would have hospitalization? There is not a word about trying to arrange with the hospitals for G. H. A. They have been talking about it since January and they refused to go to the only people who know what practicing medicine means. They refused to go to the hospitals in the District of Columbia and ask the hospitals, "How do you feel about this? What can you do about it? What are your rules with regard to practice in the hospitals?"

And then when they found that out they could go ahead and open up their clinic in accordance with rules that had been in effect in the hospitals, some of them for fifty years.

You will see that every hospital in the District of Columbia is named in the indictment as a conspirator, every one. There is nobody in the United States who ever said anything about Group Health Association who is not a conspirator.

Here are these hospitals in the District of Columbia who are manned by an administrative board composed of the ablest and best known and most civic-minded men in the District of Columbia, who give of their time freely in trying to keep the hospitals going. The staffs of those hospitals are manned by the most experienced surgeons, who do not get a farthing for what they do for the poor that come in there and on whom they operate and for whom they care. As Mr. Kelleher says, that is all they are there for. They have been doing that all these years, every single hospital. A hospital cannot talk; it cannot write; it cannot speak. It only acts and speaks and writes through its administrative board. Yet every one of those fine business men and civic-minded men are all conspirators. Of course they tried to excuse them by saying they were in a tough spot. I would like to see them try to put that group of men in a tough spot, and see how far they would get. I would like to see them go to those boards and try to impose and coerce and put pressure upon them about something which they did not think was for the best interests of the hospital. What would they get? The answer that Mr. Drayton gave, who has been a member of the bar of this court for thirty years. He gave you the answer on the witness stand last Friday:

"We didn't care about G. H. A. We were thinking of what was best for the hospital."

They don't want you to believe that. That is "with degree camouflage." They want you to believe that Charlie Drayton didn't mean that when he said that. He is on the board of Children's Hospital, and he said when he took action he took action because it was for the best interests of the hospital. The administrative boards are the final boards to approve or disapprove. But to weave in this conspiracy, to try to put into the frame this agreement, combination, confederation among those societies and defendants, they have got to put in the hospitals, because if the hospitals are not conspirators there is no conspiracy, because all they say about the staff members cannot be true unless the hospitals wilfully said, "We won't do it because we are going to restrain G. H. A."

Now I have brought you down to July 29, so far as the District of Columbia Medical Society is concerned. Macatee, McGovern, Groover and Verbyrck have all come back and reported. They came back empty-handed.

What happened then, after this report? Did the District Medical Society become aroused? Did it fulminate in its rage and say, "Now we will go after these men; now we will ruin this Group Health Association; they refused to give us this information. Therefore we are suspicious; therefore we will destroy them and restrain them?"

What did they do? They still kept the committee on and said, "We will ask them if they won't try to get some information so they can bring it back to the District Society, so the District Society may know something about G. H. A."

That is the conspiracy. That is the confederation among this group of doctors who have forgotten every ideal they ever tried to measure up to, who have debased every motive which prompted and motivated them in the practice of their profession. Now they come down to this cheap commercialism based upon the dollar and their fear of losing a dollar that is inspiring everything they do!

What did they do? They said, "Well, boys, stick it out. See if you can find something and bring it back."

And the special meeting adjourned.

What did each one of the committee do? They stayed on and finally they had another Executive Committee meeting, the result of which was read to you from the minutes, because official action was taken there. They reported for the approval of the Executive Committee and for its action, and the Executive Committee, in substance, moved that the report, after adoption, should be presented to the District Medical Society at its next regular meeting, which was Oct. 6, 1937. Dr. Macatee presented his report and the report was that they would still wait to see if they could get some information about G. H. A.

Now, that is everything which the District Medical Society did up until Oct. 6, 1937. They could have done a lot. I will tell you how they could have restrained G. H. A. They could have gone around and tried to persuade people from becoming members of G. H. A. They could have gone through the Government departments and tried to persuade membership away. They could have gone down and tried to frighten them away. They could have gone to those who were members of the staff and tried to frighten them. Was there any threat made against Dr. Brown when he was at the meeting on July 26?

What is it that they are trying to do? They are asking you to convict on suspicion. If there was any purpose or intention on the part of the District Medical Society or the American Medical Association to destroy G. H. A., they could have done everything which these 850 members here in the District of Columbia could have conceived could have been done.

Did they ever go to a single doctor and say, "Don't join that staff"? Did they ever go to a member of the G. H. A. and say, "Resign"? Did they ever do a single thing to Dr. Brown when he appeared before them as the Medical Director? Don't you think that if that old gentleman had been restrained they would have brought it out when he was on the witness stand?

Let us speak of the facts, the facts upon which we know that men do things. I told you that I wanted you to weigh the words which were spoken down there in that meeting of July 26. But before I come to that, may I give this answer to Mr. Kelleher's argument. He told you that the American Medical Association had been opposed to group practice. I will discuss this Milwaukee situation and the Ross-Loos clinic. But just look at this (indicating). Here are the minutes back in 1932, and this is Dr. Leland's committee, and Dr. Leland is one of the arch-conspirators. What is he reporting to the House of Delegates?

"In many phases of medical economics physicians must act as an organized group in order to accomplish the most worthy ends. Individual action along these lines will not be as effective or as free from error as collective organized action."

What does he say back there in 1932?

"The profession has for its prime object the service it can render to humanity. Reward or financial gain should be a subordinate consideration. The practice of medicine is a profession. Although business methods and economic principles are essential to the orderly conduct of the financial phases of the practice of medicine, all such methods and principles must serve rather than dominate the profession, must be secondary to the primary object of the profession and must conform to the accepted principles of medical ethics."

They don't like that phrase "medical ethics." They don't like a profession to have standards of practice. They don't like to have those principles promulgated and have it said that if there is any doctor who wants to become a member of the Society he must comport himself as a gentleman.

One of the finest doctors who appeared in this case, a former president of the American Medical Association and who is not, I hope, construed to be a conspirator except as he is still a member of the American Medical Association, told you that the principles of ethics were, after all, only the application of the Golden Rule in the practice of the medical profession.

But now sport is made of those ethics. They are called the Ten Commandments, because back as far as 1934, in complete refutation of the argument made by Mr. Kelleher to you, the American Medical Association declared that the practice of medicine under contract is not unethical per se, but it laid down ten principles—not ten commandments—and one of them was with reference to solicitation.

Do you like your door being knocked on in the morning, and when you answer it you have some one there say "We will take care of you for \$1.50 if you become sick"? You say

"What do I get?" You do not know that the salesman is getting perhaps 75 cents of the \$1.50; and he will paint just as pretty a picture to you as a Hoover salesman ever painted in your life, and before you knew whether you wanted the Hoover or not, you got it.

The Medical Society does not like advertising. It does not like you to pick up the morning *Post* or the *Evening Star* and see an advertisement in it saying, "Bladder removed, Ten Dollars today. Appendix Removed, \$5."

They say, "No; we don't like that." Those are two of the most important. Do you think they are unreasonable? Or do you think that doctors, after all, should give the profession a reputation such that people will seek them out, and not have them try to peddle their wares on the street like doughnuts or like oranges?

A man who has practiced his profession as he should, who has been a gentleman and who has preserved the standards and the ethics and the moral principles which guide him in the profession, does not need a newspaper advertisement. He does not need any solicitor. They say that if it is wrong for one man to do it you cannot make it right by having five try to do it.

Those are the principles which were laid down on contract practice of medicine in 1934. I suppose the American Medical Association foresaw that today, in this good hour in 1941, some one would be making sport of those principles because the A. M. A. was accused of trying to restrain G. H. A.

THE COURT:—We will stop when you are ready, Mr. Leahy.

Mr. Leahy:—Very well, your honor.

THE COURT:—The jury will be excused until tomorrow at the regular time.

(Whereupon, at 4 o'clock p. m., the court adjourned until Thursday, April 3, 1941, at 10 o'clock a. m.)

APRIL 3—MORNING

Mr. Leahy:—If your Honor please, and you ladies and gentlemen of the jury, may I say that I am going to try to be just as speedy as I can in closing up the few remaining points that are to be discussed with you and which were advanced by the prosecution in their summation.

I think yesterday at the close we had been over a great portion of the facts in the case, which had led us up to about Oct. 6, 1937. You will recall that we had discussed the beginning of G. H. A.; how it was conceived; how it was put into effect. I had gone over with you the discussion which was held in Mr. Zell's apartment, where the four high officials representing the Public Health Service and the Army and Navy were present, and I had remarked to you that it seemed extremely peculiar, in fact incomprehensible, why it was that when a medical association was being formed not a single advised man of the Medical Society of the District of Columbia had been called in to that discussion. I think perhaps I had omitted to call to your attention that at that time Colonel Jones said that there seemed to be a difference of opinion, but he thought that gap might be bridged by a discussion with members of the District Medical Society. But still not one member was called in, and the strange part of it all is that the only person other than those representing the Army, Navy and Public Health Service was a member of the Twentieth Century Fund; and then, after that we discussed what had taken place, and you will recall from Dr. Macatee's testimony that from the first day of June, when the Executive Committee of the District of Columbia Medical Society first learned of G. H. A., down to the sixth day of October all that the District Medical Society had done was to appoint a committee to meet with the members of G. H. A., and then after the meeting of July 26, and report of that committee on July 29, to continue that committee in existence and to file its report, requesting the District Medical Society to continue an attitude of investigation of G. H. A. when, on October 6, the resolution which we will come to discuss in a few minutes, was passed by the District Medical Society.

Inasmuch as that resolution was based to a large extent on a publication in the American Medical Journal let me now just for a few moments discuss what the American Medical Association had done up to that point. You will recall in the opening statement I told you what the American Medical Association was. I told you that you would learn about it from the testimony in this case and you have.

You found it is an incorporated, nonprofit organization. Its membership is made up of the members in the county societies, in the state societies; that its organization depends for its legislation on the meetings of the House of Delegates. That House is composed of representatives from these societies and also representatives from the Army, Navy and Public Health Ser-

vices in the United States. For all the world, the American Medical Association is a reconstruction of our own national form of government. Everything which is done is done to prime and probe the medical opinion of the United States in order to accomplish the purposes and objects of the Association, to wit: to advance the art and science of medicine and protect the public health. Those meetings, as you were told, occur yearly at the different places where they meet in convention. Some of the minutes of the meetings of the House of Delegates were read to you at the trial. There was one which was read going back several years ago, with particular emphasis on the question of the power of the American Medical Association, and that read to you was the report of the financial condition of the American Medical Association; and, perhaps, it may still be argued that this was a corporation which was making a million dollars a year, and, therefore, it had tremendous power based, as it was, on a membership of a hundred and ten thousand in the United States. The remarkable thing about it is this. If there is one cornerstone on which our government is based it is the will of the majority, and one hundred and ten thousand out of one hundred and sixty thousand have agreed on a course of conduct as proper to guide them in the standards of practice of their profession. Isn't that something persuasive for you to think about? If that great army of men who have selected as their life work the care of the public health and of the individual citizen think that the health can be advanced, protected and secured by a given course of conduct, isn't it a bit persuasive that perhaps one hundred and ten thousand men can't all be mistaken? And it is those one hundred and ten thousand men who have declared themselves in those principles of ethics, and you have heard them questioned—I won't say ridiculed, but certainly not honored in argument—that the ethics were moral principles. They are moral principles only as every decent, honest standard of living is a moral standard and principle; and if we do not have those in our hearts no matter what we do,—whether we are the most humble mechanics, the most capable lawyer, the most learned physician—if we do not have the desire to do a good job of our work; if, in our heart and soul we do not have the desire to do what we are called on to do in accordance with the highest standards of honesty and decency, then we are not worthy of a place in that calling, whatever it may be.

There is no question of morals. The argument was made that when such and such was considered to be unethical it was, therefore, immoral. Not in the sense it is a violation of the ten commandments with respect to the principles of medical ethics any more than a violation of the ten commandments is condemned in relation to whatever we do. They are simply the standards which a hundred and ten thousand physicians have said over the centuries should guide them; and if practically the universal voice of medicine has said those principles shall be its guide then who are we to say it shall not be.

What do they do with this million dollars? The million dollars is spent on what? That organization, for the first time to you, as it was to me, has been put under the light so that you may know what its activities are and have been in the past.

That report showed they employ approximately six hundred forty-one young ladies, clerks and specialists. I think you saw about twenty-five of them here on the witness stand. They are secretaries, each man here indicted as a defendant having three or four. For what? To answer inquiries written to them from the people all over the United States asking and wanting to know what is best to do. Then they have bureaus. They have bureaus which protect the public health in accordance with the purpose of their organization; every last one of them headed up by a Christian gentleman and an experienced doctor. Not a doctor manager; not a doctor lawyer; not a doctor economist, but a doctor each one of them who has spent his life for the public good, most of them in the public health service of their state or else in charge of medical schools; men who know the theory and the practice of their profession, and who have come there, not on their own solicitation, but chosen by their fellows because they thought they had within them those qualities of leadership to guide them and that dependence on which the profession could rely.

I told you they answered inquiries. I made that statement from the testimony. Did you hear Mr. Laux, when he stated that within the four years he alone, as one member in Dr. Leland's bureau, had answered about ten thousand letters. Mr. Simons said that they answered two or three or four almost every day; that is almost a thousand a year. And they pick eleven letters out of ten thousand written by Laux, and they don't pick eight out of about an equal number of Mr. Simons. Don't you think that if there had been this tremendous conspiracy, with all the searching of the files of the American Medical

Association, they would have found more than eleven letters written by Laux, or eight letters written by Simons which they could select as replies written—and everyone of those replies were written in response to an inquiry from a member of the public—and, as Mr. Laux told you, were answered after investigation with the advantage of time and knowledge and experience gained, not of one case visited and investigated by Mr. Simons, but of four thousand such cases.

Let me impress on you this, ladies and gentlemen. The statement was made from this witness stand, in reply to the argument which is made by the prosecution to you that this body of men who have no other interest in life than to see to it that the public health of this Nation is preserved and protected against the quack and charlatan; the man who would sell us all down the river by his representations that he can cure, and to whom the sick man would give his last dollar if he thought he could be cured of an affliction which he knows leads only to the grave,—those men with that only purpose, will be happy and will open with outstretched arms and welcome any system, any method of the practice of medicine which can give to the entire people adequate medical care at the cheapest cost available.

Why, to bring it down to our doctors, our own home town folks, the first letter which Dr. Verbrycke wrote to the Group Health Association said:

"I have just heard about this scheme. We have set up our medical-dental service; we have set up our group hospitalization service to take care of the people in the District of Columbia who need medical care and are having difficulty in obtaining it because they can't pay the price of doctors' bills."

And, none of us like to pay doctors' bills. I don't like to; you don't like to any more than we like to pay lawyers' fees. Nobody likes to pay a lawyer or a doctor. Why? Because the man who receives this service doesn't know what goes into it, just as I don't know what goes into it when a doctor feels my pulse, examines my heart or lungs and suddenly he says I have something wrong with me, and I must go to the hospital. He has come into my room; he has looked at me; tested my wrist, felt my pulse, and I had to go to the hospital; and if I didn't go to a hospital I would die; but all I recall is he came to the house once and then he was right. But here is what is hard, as Dr. Groover said down here in that meeting on July 26. He said "I know it is hard to persuade a layman," and we are all laymen, "that the doctor is interested in the quality of medical care. That his interest is to see to it that people are protected by decent, hard work of an experienced and trained surgeon or doctor. That is difficult to persuade the ordinary layman, but," he said, "That is the only thing in which we are interested, and we give up almost everything else for that." Now, he was only one, expressing the opinion of a hundred and ten thousand doctors in the United States whose sole interest has been and, I think,—if you get nothing out of this case but that, you have learned what the American medical profession has been doing for the past century almost of its existence.

For instance, take the Bureau of Investigation which Dr. West told you about. Did you know that there was any bureau of doctors, for which we don't contribute any money, that are watching the drugs you buy in the drug store to see that they are standard? Did you know they are watching the food you eat, to see that it is not polluted? Did you know that when you went to the hospital, or your son, your mother, father, sister or your baby, that that hospital was being investigated by the American Medical Association to see that it was up to standard; to see to it that when you were operated on you would not be infected?

Did you know they were checking the staffs of the hospitals to see that a drunken surgeon, for instance, was not operating on you when you were sound asleep under the anesthetic?

Did you know that the medical schools of the District of Columbia, and of the complete United States, were being so investigated that in the past forty years they have reduced the cheap diploma mills from one hundred fifty; they have cleaned that up until today we have sixty-six medical schools; and Dr. Cabot told you that they were of that high standard of curriculum and training that the young doctor of today, when he graduated from that school and went into training and internship was perhaps better able to take care of the health of the people than the trained doctor of experience of fifty years ago?

Every single bureau that is being administered and maintained at the cost alone of the American Medical Association is being maintained in the public interest, a watchful, careful eye for you and for me, and an eye we never knew was awake; an eye we never knew never slept.

That is the work which the American Medical Association has been doing for the public. And what has it been doing for the profession? It has been publishing what Dr. Cabot said was the finest medical journal in the world to keep every doctor abreast of the times. Every article therein which might be instructive; everything which was new, for the betterment of the profession, all set out there in the weekly magazine; and from that weekly magazine, and from the advertising contained therein come the funds from which you and I, and the prosecution, and all of us, have been protected.

Now, they say "We admit that. We admit they have done a great many fine things; a large amount of good; that the medical profession is not on trial; that neither is G. H. A. on trial here."

We know G. H. A. is not on trial, but I am not too sure of the sincerity of the statement that the American Medical Association and its professional members are not on trial.

If the American Medical Association has done anything it has done it at the behest and instruction of the House of Delegates, just as when the President of the United States signs a bill, he does it after it has been passed by the House of Representatives and the Senate; and, therefore, the representatives of the entire medical profession have at stake their reputation; their bona fides of action; the sincerity of the purposes for which they were incorporated. Every one of those things are at stake when they assault and attack the American Medical Association as a conspirator to restrain Group Health Association in the District of Columbia.

This organization, which is looking over four or five thousand schemes all over the United States—and they say it stopped the machinery of all that nationwide activity just to restrain G. H. A. here in Washington. And how do they say it did it? They have offered in evidence here an article written by Dr. Woodward. We put Dr. Woodward on the stand. He is a man over 70 years of age. He has spent his life in the public service. For forty years he took care of the Public Health Service of the City of Washington. He had rendered that service so well they called him to the City of Boston where he took care of the public health of that great city. And he was called from there by the American Medical Association to head the medical legal department. Why?

Because having taught over forty-five years in the universities. Having taught here in Georgetown Law School for over forty years, he had at the same time studied law, and he holds a degree of LL.M. He is a member of the bar of this court; of the courts of Massachusetts, of Illinois, and he it was who could see the legal significance of medical problems as they presented themselves in state legislatures or in the practice of the profession generally throughout the United States.

The first he heard of G. H. A. was when Dr. Verbrycke wrote him a letter when he came to Washington. Now you will recall that they harp, with a great deal of repetition and strength, on the fact that the Board of Trustees of the American Medical Association authorized an investigation into the facts surrounding G. H. A., and the publication thereof to the profession. Isn't that too bad?

Who is the American Medical Association: part of its duty has been to see to it that any association which crops up to take care of the health of the people should be investigated in the public interest, so that they, in turn, can keep their members abreast of the times; reporting to them fully what a full and complete investigation discloses.

Mark you, they didn't say "write an article at once." They didn't say "write something: we don't care what it is; whether it is true or false." That is what they would have done if they wanted to restrain Group Health. Do you think Dr. Woodward would have been here three months trying to get the facts if it was recklessly determined to restrain Group Health? What did he do? He came down here and went to the source of what should have been information, Mr. Zimmerman. Now, we know Mr. Zimmerman had started this whole organization. We know that he had been with it from the beginning. Why wouldn't Zimmerman tell the facts to Dr. Woodward? Why did Group Health take the position that it would tell the American Medical Association and the District Medical Society nothing? Why did it refuse to give anybody any information?

That is what I cannot understand from the testimony in this case. They may say "Oh, we were afraid you were going to attack us." Why? The American Medical Association sponsors schemes for the prepayment of medical care.

Why, we brought to you as a witness the president of the American Hospital Association and put him on the stand so you might hear him, the man who received this letter concerning which you have heard so much about. This smoking

out letter. We brought him here so that you might know how that letter affected him. Why? We did that for this reason: You can take a letter like that and all you see on the face of it are the words; it can't explain anything to you; and then you can put any interpretation you want on those words; it can't answer back. And then you argue from that letter that it was a threat. "The man who received that knew he was under pressure. The man who received that knew that unless he knuckled down and did what you told him in that letter to do, was going to suffer"; so we brought him down here, and said "Let them cross-examine him as long as they wish. Let the man who received the letter tell you. He can talk; the letter can't."

He told you of the group payment plans that were up there in New York State, there in the locality where his own hospital is; and he told you that there were others on his staff than members of the American Medical Association. That there was never any threat or coercion or pressure exerted against his hospital. Why, now, then, was it—to return to Mr. Zimmerman's refusal to tell Dr. Woodward anything about Group Health?

Woodward told him who he was; that he was from the American Medical Association. Dr. Woodward was asking him about the \$40,000 which he had heard had been received. No information. Mr. Zimmerman slips out of the room for a moment; comes back; Dr. Woodward says "Won't you show me the contract under which the \$40,000 was paid?" Dr. Woodward told you he said "Brown will be at Atlantic City, at the convention next week; he will have the contract."

Dr. Woodward left Washington with no information and went to Atlantic City. He was there for three or four days. He was registered; his name was on the list. Anybody could have found Dr. Woodward but nobody presented any copy of the contract and Dr. Woodward went back.

Oh, but they say, the resolution under which he acted stated that he and Leland were to return to the City of Washington, and there to advise the District Medical Society. And there is the terrible thing; they were to advise the District Medical Society and, therefore, if they advised the District Medical Society they are in confederation, combination and agreement. But they don't follow it up. They cut off at the important point. You probably didn't quite catch the significance of it, and I don't blame you with all those documents read and reread. It would be humanly impossible for anybody to recognize what some of them were about and remember it, but I took up for you the minutes of July 12 of the District Medical Society. They were abstracted, and what advice did Dr. Woodward give?

They recorded that he talked about bringing quo warranto proceedings because he had been right across the street in the Recorder of Deeds' office and found out that G. H. A. was incorporated to practice medicine, and he, as a lawyer, he who had been at the head of the legal medical department, had known that in various states of the Union the courts had declared a corporation could not practice medicine; and, therefore, he was advising the District Medical Society then, as he did consistently and which is the only advice he ever gave, "Hire a lawyer; employ a lawyer. Follow his advice."

And what did Dr. Leland advise them about trying to in any way restrain G. H. A.? He was talking about a prepayment plan for the distribution of medical care. Now, why do they argue to you, ladies and gentlemen, that this advice necessarily is the point of beginning of this conspiracy when we have in the case the evidence as to what the advice was? I will tell you why. Because the entire case is built on circumstances; circumstances like that. A visit from Dr. Woodward and Dr. Leland to the District Medical Society. They are careful not to produce facts because you and I can understand facts, can't we? But when circumstances come along, and you hear one side argue this circumstance, and another side that circumstance, it gets your mind in confusion. You want to do the right thing. You are trying hard to find out the truth of the matter. You have one fellow appealing to you with one set of circumstances and another with others; and you want to know what the facts are, and they haven't produced them and, therefore, if they leave circumstances in this confused mass before your minds then they feel as though they can argue to you that out of these circumstances came a conspiracy when, as a matter of fact, none, not only came but was never conceived.

Yes, they came down to advise. And there is an old adage in the law: that one charged with an offense is presumed to be innocent.

There is another principle: that conduct is presumed to be fair and honest.

Now, why is that? Because most men are decent. You will find some crooks, yes. Our Lord found one among the twelve, but by and large people are fair and honest in their dealings with their fellow men; and so the law says we have to take into consideration what we know to be the general rule and not fasten on somebody's conduct a suspicious motive.

If that were not true none of us would have much reputation because there isn't anything we can do that is not considered one or two ways by people who have the construction of our conduct under their investigation for either discussion or determination. Therefore, when we find that Dr. Woodward came down here, he came down here as he said on that witness stand. He was trying to find out facts.

Was the article a reckless one? He sat there on the witness stand with the original article he wrote, and on the margin of that were his sources of information; and I asked him "When you made that statement in this article, where did you get it?" And he turned to page so and so of the Congressional Record. And I asked him again "When you made that statement, upon what did you base that; what was the source of your information?" And he said from such and such a case in the Supreme Court, or State Court—and they dared not cross-examine him.

The article was a carefully written article by a man who had spent his life in his professions. He had spent practically the summer in trying to get material and finally all he could get was the certificates of incorporation which was there and is a public record across the street, which you and I may have a copy of upon payment of the price of the certification—and a copy of the by-laws.

But why should the American Medical Association be interested in writing an article for the entire membership throughout the United States on a clinic in the City of Washington? The answer, gentlemen, is given to you by Dr. Woodward. He said he was not interested in G. H. A. when he read the letter of Major General Ireland of March 27, 1937. You will remember that letter went to Dr. Cutter and he sent a copy to Dr. Woodward, and also to Dr. Leland, Dr. Leland because it concerned his department as a new method of the economic distribution of medical care; and Dr. Woodward because he said he knew Dr. Woodward was born and raised in Washington. He said he was not interested when he read that letter because it referred only to the District of Columbia, but when he came here and inspected G. H. A.'s certificate of incorporation and learned that it had qualified to deal not only in the District of Columbia but throughout the United States, wherever there were employees of the Government of the United States, then, when he knew that it was to operate wherever in the United States it could find those employees, it ceased to be a local clinic and became a national issue, for which all of the doctors of the American Medical Association had the right to be informed. Hence he wrote the article.

Well, hadn't newspapers been writing articles about G. H. A.? The testimony is full of references to publicity. Now, it was perfectly all right for a newspaper to write it, but if Dr. Woodward wrote an article on the medical profession to the members of the profession throughout the United States then he is pronounced an arch conspirator. The Court will tell you what the law on that matter is, and the Court will tell you that Dr. Woodward had the right to publish the article and that anybody in the United States still has the right to use legitimate persuasion and argument, just as I am trying to argue to you now—and I would have the right to make the same kind of an argument out there in the park now on a soap box if I wanted to, just as long as I don't conspire, confederate, or agree with other people for an unlawful purpose and to violate the law. Because that is of the right of which I spoke to you yesterday: the right of free speech and the right of freedom of the press.

Now, there isn't a single thing that the American Medical Association did in that case other than authorize the preparation of and the publication to the members of the American Medical Association throughout the United States of this article. And this article, as I have told you, and on the danger of repetition I am going to say again, was carefully prepared by an honest, decent man, who had spent his life in the honorable practice of his professions for longer years than perhaps you will find any other witness has ever spent in the practice of their profession, testifying in any case.

Oh, but they say "November 6." The American medical profession was then again appealed to. You remember that in this discussion of November 3, in the District Medical Society, the members said "The American Medical Association has not done anything for us. Let's send a committee out there and see if they won't do something." They didn't know what to do,

so they sent out Dr. McGovern and Dr. Hooe, and you remember there they sat down with Dr. West and Dr. Leland and Dr. Woodward. There, the five of them were together.

Well, hasn't a doctor who is a member of a committee of a local society the right to go to the national association to talk over with the officials of the national association his or their problems; discuss with such officials who are in contact with the entire country and who are at least supposed to have a larger, and wider knowledge, and wider experience with such things? So they went out there; and what was the result of that conference?

Do you remember I took the minutes of that conference while I think Dr. Woodward was on the stand, and I said "Find me a suggestion made in that conference for action by the District Medical Society other than Dr. Woodward's statement 'Go back and employ a lawyer.'" You can't find it.

That is all that the American Medical Association did to those two men when they came out there. They said "It is your local problem. We have done everything we could do. We investigated the facts as best we could. We published what we found; and that is the end of everything here that we can do. Go back and employ counsel and follow his advice."

That is everything the American Medical Association has done. And that organization, which has spent around a century in the service of the medical profession and the public generally, which is composed of the finest type of men in the United States, is now condemned as a conspirator, and they want you to hold them as violators of the law by your verdict, saying that they are guilty of conspiracy. And they didn't raise one finger against G. H. A.

Have you heard where they did a single thing other than publish the article which 'hey had a right to do? It was not only their right; it was their duty to acquaint the medical profession, and the public, with everything it told them.

But they say "Dr. West wrote some letters." He did. Again, those letters in the minutes of the District Medical Society are the only evidence in the case. It was all documentary evidence. We had Dr. West go on the witness stand and say "Yes. That is another letter asking for information." And he said again and again in those letters "I can't understand how an agency of the United States would be set up as a corporation to practice medicine when the courts of most of the states before whom that question has come have pronounced such an organization illegal." Again he said, "I know that the district attorney of the District of Columbia and the Corporation Counsel of the District of Columbia have pronounced them illegal." And "We have done everything we could to oppose Group Health."

Now they say "Ah": they say "Now we have Dr. West. He is the general manager of the American Medical Association. Now, we have him admitting on paper 'We have done everything we could to oppose G. H. A.'"

Yes, they have. They said the same thing to the committee of the District Medical Society on November 6. What could they do? As Dr. West said "I tried every way I could to find out facts about this organization." He had even gone to United States Senators. Now, you would think a Senator at least could pry loose a little information. He ran right up against a stone wall. Dr. Copeland sought information. They wouldn't even give the Representatives of our National Government the information. He said "I tried to get the information, and we published the information which we had and that is all that we could do," and that is all they did.

Now, remember, these men had a right to talk just as any of you being members of any society or organization have a right to speak therein. I have a right in my society to discuss the questions which are of interest to the members and the society, and so have you; they had a similar right. You would be poor members if you didn't take enough interest in your organization to discuss its problems. And suppose some one was checking you every word you said, and three years later you were confronted with an abstract, not of what you said, but of what others thought you said? And when you have an astute gentleman for the prosecution pulling a letter on you that you wrote three or four years ago, and he is trying to distort everything in there to meet the view which he has, and is examining you along that view—try it some time. And then you stood up there with a jury looking at you, a courtroom full of people looking at you, counsel all looking at you and asking you questions, and a copy of a letter is produced and you say "No, I didn't write that letter. I didn't mean that in the way you say it." And then the next thing you hear "Did you expect him to admit it? Of course, he would deny it; he is afraid to tell the truth." Try it some day. Try it when you know in your heart that you didn't mean what somebody else has said you meant when you wrote the letter. And try

to stand up against the questioning under such circumstances. "Let me hear you explain this." And it is three or four years old. That is the way of this case. We even had Dr. Parnell, I think that is his name; it is close enough to it—we even had him look through his file to see if he could possibly locate that correspondence on "smoke out," and fortunately he found it, and he brought down to you three letters and we passed those letters around, and on the three letters there were three different signatures of Dr. Cutter. One secretary had written a letter; another secretary another letter. His name was on it, and he did sign the letter, the smoke out; he didn't sign the other letters. And he told you that he hadn't dictated the smoke-out letter, but these letters come on his desk from three or four stenographers, twenty-five to fifty a day, and he signed them: perhaps some of you have to do the same thing. You say to the stenographer "Have you written up this letter," and upon that assurance it is signed. And those letters were brought down just to show you that what Dr. Cutter told you was the fact, because there was the argument to be made that, of course, he denied that letter because he was afraid of it. Afraid of what? Why should he be afraid of the letter? Here was the man who received it right here on the witness stand, but it is the same argument that I told you would be directed against any witness who had written letters or signed forty-five or fifty of them a day, necessarily having to parcel out to those working in the office this work, because no single man could do it.

Now, that is the connection of the American Medical Association with this case. There is a statement having been made there that Dr. West wrote to Dr. Hanley; wrote to a young man up in Long Island, I think, on Oct. 12, 1938. May I have that exhibit? It is not a very good photostat, as you can see; and they say that Dr. Fred Hanley of the Long Island Hospital had written down here and that Dr. West reported the situation here regarding G. H. A., and that he did it with the intention and for the purpose of restraining G. H. A. See the length to which they have gone to try to persuade you. It is a little bit sometimes more than I can understand. In order to persuade you that the American Medical Association was trying to keep Dr. Hanley from becoming a member of the staff of G. H. A. they say Dr. West wrote that letter. Well, what does he do? He states the absolute facts: "It is my understanding that the ruling of the United States Attorney and of the Corporation Counsel were made the subject of an application to United States District Court, that is the trial court, not the Appellate Court—and one of the Judges of that court held that Group Health was not violating any law."

And in the argument yesterday you heard it said to you that he knew when he wrote that letter that Judge Bailey had just decided the case.

Why did he say that? Did he give any advice to Dr. Hanley? Now, let me show you the difference between fact and suspicion. If Dr. West wanted to persuade Dr. Hanley not to become a member of the staff of Group Health, wouldn't he have said something there? Wouldn't he have said "Don't join that Group Health outfit. It is a bad group and I don't think as a young man you should possibly join this group."

Does he make any statement like that? He tells cold facts in response to an inquiry. The young man can do as he pleases. He gives no other advice or makes any other suggestion. Now, if he was a conspirator with all the influence Dr. West has as general manager of the American Medical Association he would have said to Dr. Hanley "Don't have anything to do with Group Health," but all he does is supply him with the facts, and we have just as much right to assume that it was a letter of inquiry, although the letter is *not* here, similar to that all the doctors in the United States write to the American Medical Association to be advised about medical affairs; just as every one of the inquiries written to Laux and Simons and Leland—and they have combed thousands upon thousands of letters, a few of which mentioned the Ross-Loos Clinic or some other clinic, in which was a statement that organizations of this kind usually are unethical or deemed unethical by the American Medical Association. And do you remember when Dr. Leland was on the stand and I took one of those letters and I said, "Doctor, what were you referring to when you said this?" I wanted this jury to know the fact. I didn't want you ladies and gentlemen to be sitting here trying to guess. I didn't want your minds when you went to the jury room in there to determine the truth about this matter, to have them pulling this way and that way; wondering what the fact was. I didn't want it left to your imagination just what Dr. Leland meant when he wrote that, and when Laux and Simons wrote similarly; and I said "What were you referring to in that letter?" He said, "I was referring to practically one hundred fifty organizations

in the State of California that had been closed." By whom? The American Medical Association? Oh, no. By the State of California.

Ladies and gentlemen, these men are in the office every day watching these things all over the United States. They are the ones whose business it is to know about them. They have a Bureau of Investigation. They are not running it for personal gain. They are operating it so that you and I and all the citizens of this country, all over the United States, may be protected.

Did you know that a hundred and fifty institutions in California had been closed up by the state? Did you know from that letter he had that in mind when he was writing it? No. They leave it for you to guess, so that you wouldn't know what the facts were.

What did Dr. Leland do throughout all this case? Let's take him. We have Dr. West. Dr. West didn't do anything but answer correspondence, as he had a right to do. If a man writes to you you have a right to make an honest, straightforward reply. Your opinion might differ from his or some one else's opinion, but that is what made this country; the right to do that thing; and out of the clash of beliefs and opinions, so that we may come to a form of government and enactment of laws which have been more in the public interest than in any civilization known in the history of the world. Dr. West wrote letters. He had a right to, and unless, of course, he was in some conspiracy to write the letter, if when he wrote all these letters—and they stretch back to 1935 and 1936—letters in which he expressed what he pleased with reference to certain clinics about which inquiries had been made, and also with reference to what the man was inquiring about G. H. A. being illegal. Dr. Woodward wrote the letter. Dr. Woodward was in Washington twice at meetings of the District Medical Society and, gentlemen, I don't know how it is that men can find in their minds the amount of suspicion with which to place on the honest acts of other men that has been found in this case with reference to these men from the American Medical Association. You knew when you saw Dr. Woodward on that witness stand he had no criminality in his heart, mind or soul. You know a man who is now approaching the last time before the sun sets that he will not do such things; you know that at that period of life he is not suddenly transformed into one who will conspire to crush down and destroy G. H. A., or any other decent thing. You knew that before he ever opened his mouth in response to his oath as a witness. He came down here, he tells us, to attend the meetings of the District Medical Society and, as a man of judgment, experience and training, he always left the same words. It was repeated so often it was like a litany. They asked him the question "What shall we do?" They didn't know. His answer invariably was "Hire an attorney and follow his advice." And now he is dragged through this courtroom as a conspirator, because he gave the same advice to the society that one of you ladies or gentlemen would give to a good personal friend of yours in some difficulty or trouble. You would say "Go down and see a lawyer; follow his advice." And because you did that you wouldn't want to be dragged in here and indicted if later on some question arose with reference to that advice which you had given.

What did Leland do? He came here and advised the District Medical Society with reference to a prepayment plan. That is his business. That is what he is there for. He is head of the Economic Bureau. He makes an examination of these various plans throughout the United States. He gives advice. Did he come east and say "Let's find some way of wrecking G. H. A.?" Did he come here and leave advice as to how to restrain them or kill them off? He came down here on that single occasion and the minutes show he advised them with reference to a prepayment plan. And then he wrote some letters just as Dr. West had written with reference to information inquired about, concerning certain clinics throughout the United States; and you have heard this Ross-Loos Clinic so many times that let's get rid of it now. Dr. West on that witness stand showed a letter in which he said—and we are criticized now for the action of the American Medical Association against Ross-Loos. Get this, please. This is important. This shows you how far they have gone in order to build up this case against these people. I told you, and it has been testified to beyond doubt, that with reference to purely local affairs, and the administration of the local society, the county society was a unit self-sufficient to itself, just as Montgomery County is in the State of Maryland; just as Arlington County is in the State of Virginia.

Do you find the Governor of Maryland: Do you find the Governor of Maryland going to the local officials at Rockville and telling them what they may or may not do? Do you

find the Governor of Virginia going to Arlington County people and deciding for them what they shall do; whether they want to put in a sewer, or street, or what not? Doesn't the county go ahead and do it?

Somewhere out in California the county society had a clash with the Ross-Loos Clinic. Now, under the constitution of the American Medical Society if a man is accused of unethical conduct he first has the trial in his county society. They had a trial in the county. Then, in the further protection of his interests, if he is dissatisfied with the result of that trial he has the right to appeal that up to the constituent state society, and if that goes against him then he has a right to proceed up to the American Medical Association, to what they call the Judicial Council. The Judicial Council has nothing whatsoever to do with the facts of the case. It looks the record over and sees if a man had a fair trial in accordance with the constitution and by-laws.

Now, remember, the American Medical Association is charged with having done everything it could to frustrate, restrain and destroy the Ross-Loos; it was told you so yesterday. The Ross-Loos Clinic is held up before you as a prepayment clinic which was the guide, and model of G. H. A., and you are told that the American Medical Association sought to destroy it and, following the same course of conduct, sought to destroy G. H. A. Now, let's get the facts. Now once and forever straight. If the American Medical Association wanted to destroy Ross-Loos, it could have done it. All it had to do was affirm that decision, wasn't it? What did it do? Sent it back; reversed it; shot it back from whence it came, and on what? On a pure matter of procedure. Now, if the American Medical Association is such a crooked institution; if it is so determined to destroy things that it will crush under camouflage to the nth degree, would the Judicial Council of the American Medical Association not have said "We consider these people have had a fair trial, and the decision is affirmed."

They shot it back, and Dr. Ross is a member of the American Medical Association; Dr. Loos is a member of the American Medical Association. Not one word has ever been uttered against Ross-Loos by the American Medical Association.

Dr. West, in his letter, stated "I understand Ross-Loos is giving a good sort of medical care."

Dr. Leland, in his letter, said the same thing and yet they would have you think that the American Medical Association was pursuing the same course of conduct with reference to G. H. A. that it did with reference to Ross-Loos.

Now, let us take the other one and get rid of that. You will remember that when Dr. Cutter was on the stand they talked a great deal about Mount Sinai in Milwaukee: Do you remember that?

There was a case in which the Milwaukee local county society—in Milwaukee County, I think—and the state society of the State of Wisconsin had affirmed a finding that doctors engaged in a clinic there were guilty of violating the rules and regulations of that county society. Now, we don't know what that organization was. We don't know what the doctors did. We have nothing before us except the opinion of the Judicial Council in which it said that these five men have been given a fair trial before the county society and that the said county society had been affirmed and with reference to them the American Medical Association had nothing to do. It had nothing to do with reference to the expulsion of members from any county society. That initiates in the county and goes on through the state and finally to the Judicial Council. The Judicial Council composed of seven prominent doctors from various sections of the United States sat on that case. They came to the conclusion in that case that these five doctors had a fair trial, and there wasn't anything they could do except affirm the decision.

Now, there were various hospitals in Milwaukee that had these five men, or some of them—I don't know how many—on their staffs. They have accused Dr. Cutter of using the Mundt resolution in order to get rid of the five doctors on the staff of Mt. Sinai, and nothing is more contrary to the facts or truth than that. The Mundt resolution never came into the case, and they know it; and they have no right to argue to you that Dr. Cutter used the Mundt resolution. Those doctors were tried by their brothers in Milwaukee. I don't know anything about Milwaukee, but we do know that the doctors of Milwaukee didn't think those five men were conducting themselves properly, and the state society on appeal didn't think so either; and here were hospitals which had on their staffs five men whom their brothers wouldn't associate with in the practice in which they were then indulging. You remember that the American Medical Association doesn't ask the hospitals to be approved. The American Medical Association doesn't force a hospital to be approved and Dr. Cutter said

"If you don't want to remain on the list of approved hospitals you don't have to remain. We can't do anything about it, but if you want to remain we are not going to publish to the people of the United States that we approve a hospital which has on its staff five men whom their brothers don't think should be there; in the community in which they live."

That is what Dr. Cutter said.

The hospital could have retained those men on its staff if it desired to. There wasn't a single thing the American Medical Association could do about it. Oh, but they say, the approval of the hospitals by the American Medical Association is a thing of great value. Right. If we hadn't been operating as an outstanding organization, with purity of purpose, and sincerity of ideals, then we never could have won the enviable position where hospitals would be running to us saying please approve us. The reason why the hospitals want the American Medical Association to say "We are all right" is because the hospitals know that well informed opinion of the United States shows that the American Medical Association does not put its stamp of approval on any hospital which has the slightest suspicion lodged against it either with respect to the service it renders; the plant it maintains, or the staff which operates therein. That is why. And we have no apologies to make, because Dr. Cutter said to Mt. Sinai Hospital "If you want to keep five men whom all the brother physicians of the city say should not remain on the staff, you may keep them; but I cannot say in honor to the people of the United States 'We approve your conduct in so doing.'" The Mundt resolution therefore had nothing whatever to do with it; and while we are on the Mundt resolution, let's clean that up too.

THE COURT:—Mr. Leahy, would you like a few minutes?

Mr. Leahy:—Yes, your Honor.

(At 11:15 a. m. a brief informal recess was taken, at the conclusion of which the following occurred:)

Mr. Leahy:—If your Honor please, and ladies and gentlemen of the jury, I had just gotten down to disposing of the Mundt Resolution, so called. You remember that comes into the case in this way, in an attempt to show you that the American Medical Association was in a conspiracy to restrain G. H. A., and they accuse Dr. Cutter of having made an inspection of the hospitals in the District of Columbia, which had not been inspected for years, and then in the report of the inspection to the hospitals the inspector attached the Mundt Resolution.

The Mundt Resolution, in substance, was a resolution which was passed in 1934 in the House of Delegates of the American Medical Association; and that resolution provided that they should refer to the appropriate committee the question as to whether or not doctors on the staffs of hospitals approved for intern training should be members of their local societies.

Now, get the distinction between the ordinary hospital and a hospital for intern or resident training. Not all hospitals are hospitals for interns and resident training. Some are for resident training; others are for intern training alone, and some are for both.

A young doctor, after he has graduated from medical school, usually takes an internship. Some of the states, as the testimony shows, require that as a prerequisite to the license to practice. Most of the states require it professionally, because they believe that the young chap who has just come out from the theory of medicine ought to take at least one year of the practice of medicine under the supervision and direction of old practitioners who are on the staffs of hospitals.

I think that in evidence here are the staffs of practically all of the hospitals of the District of Columbia; and they are composed of the finest surgeons and doctors that we have. It is a bit of an honor and distinction for a doctor to be on a staff, that is, the regular staff, because that is the sustaining staff of the hospital. The hospital has a responsibility to those who come to it for treatment. If, for example, any one of us desires to go to a given hospital we like to know that if one of the members of that staff attends us medically or operates on us surgically we are going to get the best medical attention we can get in the District of Columbia. We want to know that we are going to get experienced professional care.

Therefore, any hospital which holds itself out as one which can teach young medical students just out of the medical schools ought to be a hospital which has those on its staff who are capable, able, willing, and have the time and disposition so to treat them.

And just as the American Medical Association has been careful to inspect medical schools to see that they turn out young doctors who are well trained, so they have followed that up by seeing that hospitals which want to teach those young men shall, in turn, have staffs of the quality and character I have just described.

Beyond that, there are hospitals for resident training. The only difference between the young intern and the resident is this: the young intern receives his training generally. The resident is a young man who wants to specialize. Maybe he wants to specialize in obstetrics or in surgery or in some particular branch of surgery. So he will continue his internship further and he will take a residency and then he will receive particular instruction, particular instruction, in the branch of medicine or surgery which he desires to pursue. And the American Medical Association has been careful to see to it that those hospitals which are going to teach specialists shall be equipped to see to it that they are able so to do.

Is there anything wrong about that? Sister Rosa said she believed it was a good thing. Is it not a good thing for you and for me and for all of us that there is some supervising power to pull up the reins of the hospitals if they should begin to get careless? Is it not a good thing that there is some one in authority who can say to the hospitals in an authoritative way, in the sense that they have the ability, learning, experience, and training, "We are not going to approve you for instructing young doctors, because you didn't do this or you didn't do that or you didn't do the other thing; and unless and until you do, you are not going to get the approval which you are seeking"?

Remember, again, the American Medical Association does not ask any hospital to be approved, not any more than the American College of Surgeons. The American College of Surgeons goes right into the operating rooms to see to it that they are kept clean of infection, that the equipment is proper. The American Medical Association takes the hospital as a whole and sees to it that the proper instruction is there for those who seek it.

In 1934 a doctor named Mundt, in order to guarantee for the public good and for the patient that those doctors who did that kind of instruction should at least have the stamp of approval of the doctors in their neighborhood, said it would be a good thing if the hospitals should have on their staffs as the men teaching these younger doctors, members of the local medical society.

What was the purpose and intent of that resolution? It could not have been to restrain G. H. A., could it? It was passed in 1934 when the House of Delegates did not know one thing about G. H. A. They were not talking about clinics. They were not talking about producer and consumer groups. They were not grouping anybody. They were thinking of the patient and the general public health and welfare. And in the report which came out of the committee, the proper reference committee to which it had been referred, they said that the selection of staffs of hospitals was of great importance, and they said, "We have no control over hospitals; we cannot enforce such a resolution, but we can recommend it."

Then there was so much talk about this Mundt Resolution and it was twisted and distorted from the purpose for which it was adopted, in order to make it a dagger thrust at the heart of G. H. A., that we had Dr. Hayden come down. He is a former president of the American Medical Association. Dr. Cutter is secretary. He is on the Council of what they call Medical Education and Hospitals. Dr. Cutter's principal work is to look after medical schools and see that they are brought up to a standard. Dr. Hayden was brought down here for you, so that you would have an authoritative statement of that Council of just what was meant by the Mundt Resolution. He told you that it was an ideal for which they were seeking, hoping that they might attain it some day; that it was an ideal, but that it would be stupid—and that is the adjective he used—it would be stupid to say that they were using it as a threat for all hospitals to comply with.

Do you remember the testimony of Dr. Mitchell? Do you remember that he said that in 1936 the Emergency Hospital had been having so much serious trouble that they finally enacted a rule which required that the members of the staffs of hospitals should be members of their local societies—not of the District of Columbia, but of their own local societies? Why? Because, as he told you, he felt that when a man was a member of his local society he had passed the investigation required by the membership of that society and that there was a bit of a stamp of approval on that man which at least made him *prima facie* available and qualified as a member of the staff.

You men belong to organizations. You do not take in every Tom, Dick and Harry, do you? If somebody is proposed for membership, don't you look him over? Don't you say, first of all, "Well, I don't know. Do we want this chap in here, or don't we? What kind of a man is he?"

The local societies put the doctors through the same test, and if they are doctors who are not living up to standards—I don't care whether you call them ethical or moral—then they will not be admitted to membership in the local society.

Now, let us examine this argument as to whether or not the Mundt Resolution was used by the American Medical Association, through Dr. Cutter or by Dr. Cutter, personally, in order to restrain G. H. A. Once again it is a little bit difficult to discuss this evidence with you under the charge that is made against that man. Up until we had to produce before you the facts, I knew that you were suspicious. I knew that you just wondered "How come? How come that these hospitals were inspected at this time in 1937?" Remember, G. H. A. never opened its doors until November 1. G. H. A. was not in existence as a going institution until November 1. If we had not brought on for you the facts your minds would still be in a state of confusion as to just why those hospitals were inspected.

We brought on for you the inspector who came at that time to inspect these hospitals.

They tried to put into the mind of Dr. Cutter the germ of conspiracy because Major General Ireland, without any suggestion from Cutter at all, wrote Dr. Cutter a letter in March, before anybody had heard of G. H. A. in this wide, wide world, so far as any one of these conspirators, as alleged, was concerned. And Dr. Cutter told you that he made a copy of it for Dr. Woodward, because Dr. Woodward was born and raised in Washington; and he made a copy of it for Dr. Leland because Dr. Leland's department looked over the medical economic matters. Ireland's letter never mentioned G. H. A. It said an H. O. L. C. group.

Following that letter in March there was not any communication to Cutter about it. He put it away in his files and forgot about its existence. He certainly never thought that it would be used for the purpose that they are using it against him now. And Dr. Cutter took that stand on his oath—a man who has been at the head of the Graduate College of Physicians and Surgeons of New York, who has been at the head of the Medical School of Southern California, a man who has for years been trying to take care of the standards of medical schools and colleges—and he said, "I never heard of G. H. A. until October 1937."

Then we went one step further and showed you why the inspection was made. This is just a bit like a pebble in a shoe: it is irritating to think that people would have the temerity to charge these honorable men with being conspirators in the face of the truth which they can show.

Dr. James Cahill, who is the chief of staff of Providence and of Georgetown University hospitals, was trying to get Georgetown and Providence approved for a residency in surgery. Those two hospitals you and I have often thought of as being two as good hospitals as we can boast of in the District of Columbia. I doubt that it would have ever occurred to your mind that when Dr. Cahill asked for the approval of a residency in surgery anybody would have to examine those hospitals. You and I would have said, "Of course those hospitals are two of the finest we have. They have been here before we were born. We unhesitatingly send our friends or our relatives there when they are sick."

But did the American Medical Association take that view? They said, "If you want the approval, fill out the proper form and let us see what you can do in the matter of instruction of these young surgeons that you want the privilege of instructing."

So Dr. Cahill in due course filled out an application, and then, as Dr. Peterson told you, when he could find time to come to the District of Columbia he came to make his inspection. I think it was some time in May. Maybe it was in June. He told you, "I never had heard of G. H. A."

These people think that G. H. A. was the only organization in the wide, wide world to which the entire world paid any attention. Peterson never heard of it. You and I never heard as much about it as we have heard about it in the court room in the last two months.

Dr. Peterson came here to inspect and to determine whether or not a residency should be granted. You remember I read the report of Peterson to you, so much of it as contained his criticisms; and if he did not go through Georgetown and Providence with a fine-tooth comb I am very much mistaken. Why? Was he doing it for any other purpose than to protect those who one day would be operated on by the young resident whom they wanted the privilege of teaching? That is the only purpose he had in mind. He was not thinking about restraining G. H. A. He came here and told Providence Hospital, "Listen. Unless you check up on what you have been doing you will not only not get approval for residency, but the chances are that your right even to teach an intern will be disapproved."

And he told Georgetown the same thing; that they should correct certain deficiencies which were found, in order to make them qualified for the instruction of a young resident.

Three of the hospitals had not been reexamined for a number of years, and while he was in Washington he said, "I will take care of those hospitals while I am here." There are over six thousand hospitals in the United States. They have two or three inspectors, and it is a job, is it not, to inspect six thousand hospitals?

He inspected those hospitals and made a full account of conditions as he found them. One of them is a special hospital—Columbia. That has to do only with residencies for obstetrics. The others he inspected and wherever he found anything wrong he criticized them.

Don't you think it is a good thing, while you and I are asleep, that we have somebody watching over the hospitals and giving reports such as Dr. Peterson gave here? Don't you feel a little safer now to think that there is some one who is pulling up the hospitals of the District of Columbia by the reins and making them hold their heads up higher, or else they won't get the approval of the American Medical Association?

And then on the bottom he wrote: "What possibility is there for your hospital to adopt the principles"—I cannot recall the exact words—"laid down in the Mundt Resolution?" That resolution was passed only and solely for the good of the patient and the public, in order to raise the standards of the hospitals and keep them high. Oh, they say, "Cutter got five hospitals. Warfield got some more on Dec. 1, 1937." Did he? Remember, they charge that the American Medical Association threatened and coerced the hospitals of the District of Columbia when they attached that Mundt Resolution. They received a letter back from Providence in which Providence said it would be a tragedy—I think that is what the Sister wrote—if Providence lost its approval for intern training. Of course it would. The well informed public opinion would know that Providence had deteriorated to the point where it was no longer considered worthy of teaching young men; and the same thing would be true as to the residency. Sister Rosa wrote that everything that was offered by way of criticism would be eradicated just as soon as it could be; and it was. But not until they inspected it again. It took Providence Hospital two years to get residency approval.

Is that a restraint of G. H. A.? If they charged us with restraining Providence Hospital from getting approval, that would be looking like it, would it not? But they checked and double-checked, and we had Sister Rosa come here and she said she did not consider it any threat; she considered it was for the good of the hospital.

And Dr. Caylor came to the stand, who wrote this letter, and he used in it the word "requirement."

"Ah," they said, "now we have proved a conspiracy, because the American Medical Association, in attaching the Mundt Resolution, used it as a requirement."

The American Medical Association had a right to do so if it wanted to. The court will tell you so.

The American Medical Association does not force any hospital on an approved basis. You saw here the mechanics by which a hospital got on the approved list. They ask for it. If I ask any one of you to approve my conduct, will not that one say to me, "Wait a minute. If you want me to approve what you do, you do it this way or that way, because that is the standard I think you should pursue."

The same is said with reference to the American Medical Association in its approval of hospitals; and you will note again in the Caylor letter that once again, in the same way in which they drive the dagger of suspicion into your minds, where they emphasize the word "requirement," they never brought to your attention the word "request"—because in the letter which Caylor wrote he said, "The requirement is the Mundt Resolution, and the board has requested that you will comply with it."

Was there any threat from the board, any coercion on any one? Even if it were a requirement, which it was not, any man on the board could either remain on the board or not, as he saw fit. That was his business. The District of Columbia Medical Society did not interfere. Neither did the American Medical Association. But each one of them said they would gladly become a member of the local medical society.

When Dr. Cahill was on the stand I asked him whether or not the American Medical Association had ever followed up further to find out whether all members of the staff actually were members of the local medical society. He said, no. These people who are now conspirators, this great organization, and Dr. Cutter as secretary of that council was so much of a conspirator that when the Sister wrote to him and said that they had all promised to join, he never tried to find out whether they did or not; and as a matter of fact, Dr. Cahill told you that there were men on the staff of Providence Hospital, even at this time, who are not members of the local medical society.

With reference to Georgetown Hospital, Dr. Cahill thought the Mundt Resolution was a good thing, just as Dr. James Mitchell in 1936 thought it was a good thing, even before Mr. Zimmerman dreamed of G. H. A. Emergency Hospital had put it into effect. I said, "Doctor, as a matter of fact, are all members of Georgetown staff members of the local society?" He said, "Oh, no." But, nevertheless, in October 1937, a month before G. H. A. opened its clinic, Georgetown adopted the principle of the Mundt Resolution, but it said, "Those of you who do not belong, take a year to join." Why? Because there are some young men on the visiting staff or the courtesy staff who perhaps, just starting in the profession, cannot afford to pay dues; they cannot afford to buy *THE JOURNAL*. To these young fellows maybe \$25 or \$30 is a lot of money, and they cannot afford it. Georgetown, under no circumstances, would keep those young men away from the staff because, for good and sufficient reasons, they could not join.

Columbia wrote and said, "We have a man on our staff who has been on there for years, and we won't throw him off." The person who wrote that letter thought it was a demand, and he said, "We will not throw that man off. He has been on our staff and there are reasons why he does not belong to the local medical society; they are good and satisfactory to himself, they are personal, and we will not go behind them."

Just one other thing on that point. You remember that in the spring of 1938 the Medical Board recommended to the board of trustees of Columbia Hospital in this city that they should have a requirement that all members of the staff of Columbia should be members of the local medical society. What did the board of trustees do? They sent it back, saying "We refuse to enact any such legislation."

The next one was George Washington, and we had Dr. Charles Stanley White come here and tell you about that. I said, "Dr. White, are all members of the staff of George Washington University Hospital local medical society members?" He said "We have thirty-three who are not," as I recall it.

Yet they represent to you now that Dr. Cutter forced these hospitals to adopt the Mundt Resolution—at a time when he never had heard of G. H. A.

I think the other hospital was out in Takoma Park. We have not heard much about it; but the same recommendation went to that hospital as went to all the other hospitals, the five that were examined. The same criticisms were made—not in the sense that all the criticisms were identical, but I mean that in each case the purpose of the report was to acquaint the hospital with the defects in the administration of service which existed in the hospital; and you remember that the A. M. A. was fair enough about it so that they submitted a report to the hospital, so that the hospital could come back with its comment or criticisms.

And yet that is picked out as an instance to show that Dr. Cutter was not performing his duty; he was not engaged in the conduct of his office as secretary of that council; he was not doing in Washington what he was doing all over the United States—inspecting hospitals—but that he had the mean, low, immoral purpose of trying to destroy G. H. A., which he never had heard of.

Is not that stretching the case pretty far? Is not that trying to confuse your minds? Why, ladies and gentlemen, if there had been a conspiracy in this case it would not have taken two months to listen to somebody try to prove it. You would not have had to be listening to arguments about inferences. The facts would have been there. They take the suspicious circumstance that Dr. James Cahill, in the Year of our Lord 1937, happened to think that Georgetown and Providence should be approved for a residency in surgery, and from that simultaneous or contemporaneous event they said, "We are going to argue to this jury that they seized on that request in order to bring about a conspiracy to destroy G. H. A."—which had not yet opened up its clinic, and when the examinations were made it had not even had a staff.

Would that convince any reasonable man beyond a reasonable doubt that men who have lived all their lives in honor and decency have suddenly lost all sense of honor and decency and are now going to join in the commission of a crime against the laws of the United States? What manner of men and women do they think the jury is composed of? Do they think that you ladies and gentlemen have lost your sense and reason too, so that you cannot see through this attempt to pervert and distort the ordinary happenings which occur simultaneously and contemporaneously every day, into evidence of a conspiracy?

They said, "We went one step further and all these hospitals got together"; all these hospitals, through their boards of honorable, decent men, who act as the administrative board of

trustees. What did they get out of it, ladies and gentlemen? Maybe some of you have to act in some organizations where you do not receive a farthing in return. You do it because you feel as though you have your place in life, after all; that you are not here just to see whether you can make 5 cents or a dollar every day; that, after all, when it comes to the time when you are leaving this life you would like to feel in your heart, "Well, I have left the world a little bit better in the niche where I was born for my having occupied that niche." And so you go out at night when you are tired and attend a meeting, or you take a membership on a board of this organization or that one. You do not look for compensation in pay. You are only acting because within the heart and breast of every man, every good man or woman, there is that urge to do something for his or her fellow men and women, and you can do it only in the little way in which you are capable and in the place you occupy.

These men did that in these administrative boards. They are composed of our finest citizens. And you are told that those citizens, through their administrative boards, were either coerced or forced or influenced unduly so that they brought all of the hospitals in the District of Columbia into this gigantic conspiracy with all of the doctors in the United States who are members of the A. M. A., and our local doctors through the District Medical Society, to freeze out—whom? Raymond E. Selders.

I do not think counsel would have either the hardihood or the temerity to try to use that particular application as an instrument of assault to strike down the fair reputation of the hospitals of the District of Columbia. I did not think that he would accuse us of so much wrong that he would not leave us even the fragment of a decent motive in considering that application.

Once again we had to go out and get the facts. They were all available; every one of those letters we drew from files which the prosecution had or which were available. Every single letter that we brought in here before you we took from files which lay on the table; and yet they held them back hoping to poison your minds so against the doctors of the District of Columbia and against the hospitals that when I came to speak to you you would be living under such an outrage that you would not even listen to the reason of the facts.

What do you find? Dr. Selders. I am sorry I have to say this. The man is not here. He should have been here. The Government should have brought him here. The Government should have produced him, as it went clear down to Houston, Texas, to bring a man and place him on the witness stand just to identify a signature. And yet they would not bring to you the man who was the principal of the conspiracy that they say we used against him, just as they would not produce Childress, for you to find out whether Dr. Brown was telling the truth as to whether Dr. Neill was offered the Medical Directorship of this organization. They would not bring before you Dr. Selders so that he could answer and stand up and say, "Yes; I got down on my knees to these hospitals and I was refused the right as a surgeon. They crippled the institution which I joined. I could not practice surgery because I had no place where I could practice it."

And then, what do you find out to be the truth? Dr. Brown told you he never employed him as a general surgeon to do general surgery; that when he employed him he employed him to do minor surgery such as is done in a clinic; that he did not consider that he had the qualifications which would give him the privileges of the hospitals of the District of Columbia.

And when Mr. Kirkpatrick was on the witness stand he made this answer, and I want to repeat it to you now. I said, "Mr. Kirkpatrick, did you know anything about the qualifications of Dr. Raymond E. Selders?" He said, "No." I said to him—a trustee in 1937 and president of the organization in 1938—"Did you make an investigation into the qualifications of Dr. Raymond E. Selders?" He said, "No; and I have no apologies to offer."

That man was to take care of the surgical wants of five thousand or six thousand people, and the president of the organization sat up there and boldly accused all of these defendants as being in a conspiracy against them.

He said, "In July we sent another final plea to the hospitals to admit this man."

This man who had but one surgeon to offer these subscribers would inflict on them a man whose qualifications he never knew and about which he was so little interested that he never made an investigation, and he had no apologies to offer.

I think apologies are due to the subscribers of G. H. A. for a lay administration of that character and that type.

Now, what do we find about Raymond E. Selders? I do not like to talk about other men, particularly when they are far away and cannot answer; and I do not like to accuse any witness, or characterize him, who appears on this stand. It is an easy thing, ladies and gentlemen, for a lawyer to stand here and use harsh language and call names. But that is not what you want. You want some help so that when you go out into the jury room, where these questions come up in your minds and you disagree, you will find somebody who maybe can help you to coordinate the evidence in the case so that you can sit down to a deliberate judgment in a most important matter.

You know Dr. Raymond E. Selders is incompetent. You know that he has no more right to enjoy the wide privileges for which he asked permission than I have. That man asked permission to do anything in this wide, wide world with you when you are asleep and there is nobody there to see what is being done. He wanted the privilege of a general surgeon who, without supervision, without anybody there to watch and stand over and see that he was doing the right thing, could operate on any man for any thing, or on any woman, because he asked for the widest privileges as a gynecologist. He wanted the widest privileges that the most capable, able, and experienced surgeon alone enjoys.

And then they laughed at Dr. Mattingly because they said he wrote a letter when he was asking for permission to go before the Grand Jury, and they said he boasted of the fact that he it was who was responsible in his way for Selders' rejection at Sibley Hospital.

Out of the same files we drew Dr. Mattingly's letter. I read it to you on the last day that testimony was taken. It was written on Christmas day, 1937, when, if ever, a day opens and closes when the heart of man is most at peace, when he is least likely to be writing things unfairly. And if you have ever heard a better exposition of the reasons why one doctor, who is a member of the staff of a hospital, disapproved the application of Dr. Raymond E. Selders, then I do not know where to go to find it.

He said, "This man seeks privileges which are wider and broader than any we enjoy here in the District of Columbia, and we do not know him."

As you heard Dr. White say on the stand, when a man makes application for privileges in the District of Columbia hospitals usually somebody knows him, and they will say to Jim or Joe or Charlie, "Do you know this fellow?" "Yes." "How is he?" "He is all right." "Have you ever seen him operate?" "Yes. He is a good man. I have seen him and I know him. He is capable, he is able, he is honest, he is energetic."

But who knew Dr. Selders? Not only did we not know him, but we had difficulty in finding out anything about him. First, when the application was made at Sibley you recall, almost within six or eight weeks, long enough to investigate the references which were given, his application was rejected because they said, "We can't get any replies from your references."

So then Selders wrote his references, I presume, because he then wrote a letter to Dr. Taylor, who is now dead, and he said: "I understand now you have heard from my references. Won't you reconsider?"

Immediately came back the answer that they had read his references and they saw no reason to reconsider.

You remember, with reference to the first application, that we put the Coroner of the District of Columbia on the stand, a man who is now in public office and has been for years, and he checked on the side of his report, "We need more information about this man."

Don't you think that when a hospital is called on to give the right to any man to do anything in that hospital on his own judgment and unsupervised, it is in the interest of the patient—or is it a conspiracy to restrain G. H. A.—that they examine the qualifications of Dr. Selders?

You go down through all the hospitals, and most of them, or a great share of them, took the recommendation of the Washington Academy of Surgery; and the Washington Academy of Surgery made an investigation and reported that in the judgment of those surgeons—and it is composed of the finest surgeons of the District of Columbia—they did not think he was qualified.

And they indicted the Washington Academy of Surgery just because those surgeons, who know better than anybody else whether a surgeon is qualified or not, recommended to the hospitals who sought their advice that they did not think this man was qualified. That judgment was considered so ill-advised, so reckless and so unworthy that they dragged the Washington Academy of Surgery in here as a defendant.

Then, do you recall that when Dr. Borden, who is not a defendant here, was on the stand, who is a member of the Washington Academy of Surgery, he said, as I remember it, that it was a John D. Moore to whom he wrote in Hugo, Oklahoma, and he got a reply back from Dr. Lee in Pennsylvania. We brought Lee down here. You saw him. He is the man who saw Selders; and when the Washington Academy of Surgery asked Dr. Lee for a recommendation, Dr. Lee said, "I understand that they gave him chances in Worcester far beyond what we thought he was capable of."

That was the only letter which we got. And then, in order to disabuse your minds of any possibility of withholding something from you, because the argument would be made, as it was made here yesterday, that we wrote to John D. Moore when we should have written to John T. Moore, we brought down the application which was sent to the Washington Academy of Surgery, showing John D. Moore, and the address that we got was the address to which we wrote in Hugo, Oklahoma.

The statement was made that he did not live in Hugo, Oklahoma. You don't know that and I don't know it—I do, but I cannot tell you. The statement was made that he did not live in Hugo, Oklahoma. There is absolutely no evidence in this case as to where he lived or did not live, and I have just as much right to say that he lived in Hugo, Oklahoma, as some one else has a right to say he did not. I happen to know what the fact is, but I cannot disclose it to you because it was not proved.

Then we finally get to a letter which was characterized to you yesterday as a "muckraking" letter with reference to Dr. Selders. Do you remember, in the Garfield case, where they attacked Eisenman's inter-office communication where Dr. Eisenman said, when he passed on Selders' application to the board, "This is not a run of the mine case" or "run of the mill," or some such phrase as that, and that on the face of it it seemed as though this man had just as much qualifications as some of the others in the hospital, and "therefore if you are going to refuse his application on other grounds than qualifications I wish you would state it so that the administrative board will know."

They offered that in evidence. Why? Oh, that looked just like the kind of a letter they wanted, because then they could argue here that the superintendent of the hospital was bringing it to the attention of the Executive Board that he had qualifications, and yet they rejected him. That letter was right in the same file (indicating). It was written to Mr. Castle and it was criticized and characterized as hearsay upon hearsay, not worthy of credit or belief. We brought Mr. Castle down here before you, and he is a man who has been in public life practically all of his life, and finally held the responsible position of Under Secretary in what is perhaps the most highly respected department in our government—he was Under Secretary of State. That is the type of man he is. He is on the board of directors of Garfield Hospital. He was interested, naturally, in the Selders case because the newspapers, as Dr. Macatee told you, were blasting the hospitals; they were blasting the District of Columbia Medical Society with reference to this man Selders and making accusations just as they have been made to you, and for the first time in this court room the truth has come out, and of course they were wary and chary.

Do you remember that the Washington Academy of Surgery was so careful that they said, "For the sake of the public let us not consider Selders' connection with the G. H. A. at all in this matter?"

Do you recall Dr. MacDonald, the Coroner, when he said that at Casualty Hospital he said to them, "Let us not consider anything about his connection with G. H. A."?

They were hurling charges at the hospitals and the doctors, so they leaned over backward. And then this fine, estimable gentleman, the Under Secretary of State, wrote to this man in Worcester. Was he responsible? He is the president of the Norton Company and he is connected with various hospitals and is, I believe, head of the Worcester Museum. He says:

"Mr. Higgins is a very careful individual who would not write anything which he had not checked on pretty carefully."

Is that the sort of a letter that you can kick around the floor of a court room and say that it is rank hearsay on hearsay?

He told you that Dr. Selders' work at the City Hospital "did not meet with the approval of the superintendent as to the way he handled himself with the interns, nor the approval of the surgical staff as to his accomplishments as a surgeon. The appointment accordingly was not continued after the first year."

He was employed here through an employment agency in Chicago. If he was the surgeon which they try to make out

he was he would not have been in Washington; he would have been in Worcester. But they did not employ him after the first year.

I am not going to repeat the letter, which I am sure you remember, with reference to his sister. But Mr. Higgins adds that "It is quite possible I may be able to get some more detailed information by consulting with the doctors who knew him." He says, however, that "It seems as though the above, for the accuracy of which he vouches, would be about enough to dispose of him both as a surgeon and as a man."

I think it does.

There was a great deal said about the rejection and refusal of other doctors of G. H. A. Remember this—and the court will so instruct you—that hospitals have the right to lay down rules and regulations. You have heard every single doctor tell you that the right to practice medicine in a hospital is not an absolute one; it is a privilege; and therefore a hospital can reject applications. And you saw in the evidence here rejections of applications of other doctors, and some of the members of the District of Columbia Medical Society, and by Dr. Titus, who received another letter from Texas. Dr. Titus was on the committee of the Gynecological Society of the District of Columbia. He told you that there are members of the Gynecological Society themselves who were rejected as applicants on the staffs. There were doctors rejected because of the rules of the hospitals. Notwithstanding all those rules and knowing those rules, these people still kept thrusting on them these applications for Dr. Selders' appointment, although they knew that under the rules, so far as Casualty Hospital, for instance, was concerned, for fifty years he could not have been admitted. And you know from these other letters which I have not the time to read to you he could not have been admitted if he had never seen G. H. A., because he was not qualified to do the things for which he asked the privilege of doing; and even over at Columbia Hospital, when they gave him the privilege of simple obstetrics, he never utilized it.

Do you recall that Kirkpatrick, on that witness stand, told you that they had seventy-five elective operations when he took office in 1938 and that they could not have those seventy-five operations in 1938 because we would not let Selders into the hospitals. Do you remember that testimony? When we got Dr. Price on the witness stand, one of their own members, what did he tell you? Just as Dr. Brown has said, Dr. Selders was not competent to perform the operation "and we did not have the funds with which to perform them," and he was advised by the Medical Director, who then was Dr. Selders, to delay them, hold them off, make excuses. And yet, if we had not found Dr. Price for you, you would still think that we had kept seventy-five people who wanted operations from getting them.

The fact is, there is not a hospital in the District of Columbia that ever refused to admit a patient. They may point to Sibley, when Dr. Taylor sent a memorandum saying that no patient of G. H. A. is to be admitted into the hospital. Three times Dr. Taylor wrote Kirkpatrick and said to Mr. Kirkpatrick, "The question of your association is before our board of directors, and until they act I cannot give you any reply." But there has not been one single instance where a patient has ever been refused hospitalization. On the contrary, the hospitals of the District have stood up to the reputation which they have always enjoyed for their experience and hard work to get along financially; of taking care of every sick person ever brought within their doors.

And that brings me to this last consideration. Not only was the situation that Group Health Association brought before you in connection with Dr. Selders' rejection made much of, but more particularly there were five or six cases instanced where it looked, on the face of things, like the hospitals had sunk so low in this conspiracy that they had actually refused to take care of people hit on the public streets, because they were members of G. H. A.

You will recall that line of testimony, that series of cases, which started, I think, with Miss Abbott, the lady who was struck by an automobile and was brought down to Emergency Hospital. And to me, on the testimony, it seemed as though they did nothing for her as soon as they found she was a member of G. H. A. But on the following day they took an ambulance and carried her to Garfield. You remember that case well, I am sure. I wondered, Is it possible that, after all, this feeling had become so intense that a hospital would not take a woman who had been hurt on the street and give her treatment?

And then we went to look over the files, and out of the same file we got the truth. And that is another pebble in the shoe.

Miss Abbott was brought to Emergency Hospital. She was brought into the hospital and given complete emergency care. We brought you the nurse that took care of her. We brought you the two interns, one of whom we found at Lorton. Do you remember him? We brought him up here to tell you the truth and answer this base, nasty insinuation made against one of the honorable hospitals of this city. Sometimes it is hard to restrain one's self when we hear decent, honest people baselessly charged in such a fashion on such a groundless imputation.

Only yesterday the prosecution told you that the woman was so badly hurt that she had to stay in Garfield Hospital for three weeks. I read you the Garfield chart so you might know how badly that woman was hurt. I thought at first she had a broken leg. I really thought that from the testimony you would find that here was a woman who was struck down on the street, her leg was broken, and she was taken to a hospital and it had refused her hospitalization. Then we find that Miss Abbott wanted Dr. Selders—and if you want to know something about this clinical service, get it from Miss Abbott. At 10 o'clock at night when she needed help, could she find it in G. H. A.? Could they locate Dr. Selders? They phoned until midnight and could not find him. When you need a doctor that is when you want him. They could not find him until the next morning, when he showed up at 10 o'clock. They criticized us because in the opening statement I think I mentioned it was 6 o'clock. But you find that Miss Abbott never had a broken leg. I don't think there was ever anything the matter with her. Don't you remember how I read from the chart, "She slept, she slept, she slept all day"? She stayed there twenty-one days. Why? Because, under the by-laws of G. H. A., she gets twenty-one days' treatment for nothing at the hospital; and she had a good rest.

Then we come to the next one. This is one that I thought was worse than the first, until I found out the truth. That was Mrs. Austin. Here was a poor lady who was struck by an automobile or a trolley car, one or the other, and was brought down to a drug store at 14th and F or 14th and Pennsylvania Avenue, and her daughter actually told you that she never got a bit of treatment, and she took her home, out of Emergency Hospital.

Once again it looked as though Emergency Hospital should be closed. But what did we find to be the facts? First of all, the daughter is a director of G. H. A., and she testified against these men for conspiracy to restrain G. H. A. Dr. Selders had known for months, G. H. A. had known for months, that no privileges in Emergency Hospital could be given anybody who was not a member of the District of Columbia Medical Society, and that that act was passed by the board of directors long before G. H. A. was ever dreamed of; and yet, right in the face of the Emergency Hospital's staff and its rules and regulations, they kept thrusting back into the face of the hospital Dr. Raymond E. Selders, just as now they try to ram him down your throats.

What is the truth about the matter? Mrs. Austin was offered anybody she wanted on that staff, any doctor—and they were the most responsible, reputable, able and experienced in our city. She said, "No; I want Dr. Selders." What happened? Her daughter took her home. I asked her, when she was on the stand, "Did some one from G. H. A. come to see your mother at home?" She said, "Yes."

I said, "Who was it?" She said, "Dr. Halstead."

All this made good subject matter for public comment in the press. When we put the little nurse on the stand, whom we later found out at Walter Reed Hospital—we had to fish around for all these witnesses, nights when you did not know we were working; we had to go out and find them so that you might know the truth. We brought that little nurse here, and we found that Mrs. Austin had walked out of the hospital and never took an ambulance.

Now we come to another case, that of Mr. Hardin. He was the young man who was taken very sick with acute appendicitis. He was treated by a doctor in Arlington County, Virginia. He was taken to Sibley Hospital, and there he was operated on and his life was saved, because he had a serious appendix. He had not been in the hospital five minutes before a G. H. A. man, a brother of Mrs. Hardin, came in and once again started to put the hospital on the spot, making demands right then and there while that man is up in the operating room, being prepared for the operation, and while the surgeon is preparing himself for that operation—demanding Raymond E. Selders, whose privileges had been rejected five months before, be given the privilege to operate on that man.

They had those cases paraded before this jury in an attempt to arouse honest indignation which would naturally arise in

the heart and soul of any fair-minded person to hear of conduct like that, if it were true.

Then, what did we find out about Miss Tew? Miss Tew was another case. She came to Sibley, you remember. It was painted to you yesterday that she came up there and was given morphine and was removed from the hospital under morphine. What is the truth about that?

THE COURT:—You said Sibley Hospital, Mr. Leahy. I think it was Garfield.

MR. LEAHY:—Yes, your Honor. On Jan. 25, 1938 Garfield wrote a letter to Raymond E. Selders saying that the privileges which had hitherto been granted him had been withdrawn pending the determination of the legality of G. H. A. On the 26th of January he took Miss Tew to Garfield, and Garfield Hospital said to him, "Well, perhaps you did not receive the notice. Go right in and take care of her."

Could they be fairer than that? They knew that he had no right in Garfield Hospital to treat patients except in the case of an emergency, and he sent in Miss Tew as an emergency case. You remember that Peggy O'Connor took the witness stand. I thought that Miss Tew had been stricken, like Mr. Hardin, with a bad appendix, but we found that she had been lying home in bed for a week, and the doctor said that it had subsided. But then, once again, knowing that he had no right to do it whatsoever, but trying to get in under the theory of an emergency, he has Miss Tew come to Garfield Hospital for an emergency operation. It was not an emergency operation at all, and it was not an appendix case at all, because on the chart there were written words to the effect that he was going to make a mid-line incision; he was going to explore the abdomen, and while he was doing that he would remove the appendix. Then it was discovered that it was not an emergency case; that Dr. Selders had no privileges there, and they said Miss Tew could take anybody on the staff—"any doctor or surgeon you want is yours, except that we do not permit doctors who are not on the staff to function in the hospital."

But rather than to do that, Miss Tew left the hospital—and they left the testimony. They never told you whether Miss Tew was operated on or what became of her. They wanted to leave it up in the air for suspicion, again, so that you would wonder or think and, thinking, believe that Garfield had ejected a poor girl from its doors who was in a situation of emergency.

And then comes the last one, the Mary Frances Stuart case. That was so bad that Mr. Penniman called up Dr. Neill one afternoon and had him go up on a Saturday afternoon to complain about that case. I thought that Mary Frances Stuart was going to die, before counsel got through telling us about it. And once again we had to find out what it was all about.

She was not a member of G. H. A. at all. She was a laboratory technician at G. H. A. She was taken very sick in her apartment. She advised her room mate or a friend that she wanted Dr. Allen E. Lee. Allen E. Lee came and pronounced it a case for surgical attention. He called Dr. Brown. Dr. Brown said, "Very well. I recommend Dr. Schoenfeld." Allen E. Lee got in touch with Dr. Schoenfeld and they made arrangements to use the hospital. Dr. Lee said he met Dr. Schoenfeld coming down the corridor as he came in the front door; and Mary Frances Stuart was operated on that morning at 11:30. That is the case.

And yet that is the case that Mr. Penniman complained about and would have you believe that some one in the District of Columbia Medical Society had absolutely refused to have anything to do with Mary Frances Stuart. He said something about Dr. Schoenfeld's saying, "If she is your private case I will operate on her; otherwise I will not."

Now, that arrangement was made by Mr. Penniman with the whole troop of the board of trustees of G. H. A. They came to see Dr. Neill to discuss that case, it was so outrageous. The papers were filled with it. They saw to that. They wanted to put the hospital on the spot.

Where does the conspiracy come in? Was there a conspiracy there to ruin the reputation of our hospitals? Were the hospitals trying to maintain the standards which they had always maintained and to enforce rules and regulations which they had always enforced regardless of who the doctor was or to what organization he belonged?

And then Penniman went back and checked with a letter; and when I showed him the letter there was not a word about the Mary Frances Stuart case in there. I said to him, "I thought you went up to talk about that case."

"Well, we did, but we got shunted off on another one, because Dr. Neill said he had never heard about it."

Every little piece of evidence, where it might be possible to urge it against the District of Columbia Medical Society, something that would arouse your honest indignation, they have

culled out over a period of a year or a year and a half and brought before you in order to, if possible, poison your minds.

THE COURT:—We will take our recess now until 1:30. (Whereupon, at 12:30 p. m. a recess was taken until 1:30 p. m. of the same day.)

APRIL 3—AFTER RECESS

(The proceedings were resumed at 1:30 p. m., at the expiration of the recess.)

MR. LEAHY:—If the Court please, and you ladies and gentlemen of the jury, I rather think you will be glad to see me sit down instead of standing here, but there are just a few points I want to cover and I will be through.

You will recall that just before recess for luncheon we discussed the situation with reference to the Washington hospitals. In the argument yesterday you will remember that it was said that the Washington hospitals came into this conspiracy because of the power which the District Medical Society had over the hospitals, through the membership of the Medical Society members on the various staffs of the hospitals; and then having this power they had the machinery by which to enforce it; and, therefore, whereas the hospitals are in the strange and unique position of not being active conspirators in the sense that they willingly joined at the outset, nevertheless they felt the power and compulsion of the District Medical Society to the degree that they elected to become conspirators. I don't know whether you would call it in self defense or because they were afraid. It was said that the staffs of the hospitals would be unmanned and you remember the argument was made that they had that power which for any capricious reason at all the District Medical Society could exercise to the disadvantage of the hospitals.

Now, what was that power? They said that power was the power to approve, and you will recall that just as the American Medical Association approved certain hospitals for intern and resident training, so the District Medical Society was acting for the same restraint in the same sense that they were watching to see to it that the Washington hospitals should not themselves fall from the standards which the hospitals of the District of Columbia should maintain.

After all the only people who really know whether the service in a hospital is good, bad, efficient or otherwise, are those who have been trained, and who know what service is being dispensed in the hospital; and I may state that can be known only to medical men; but the power to approve which the prosecution adopts as evidence of the power of compulsion is something under which they want you to believe the District Medical Society compelled the hospitals of the District to act.

Now, once again, may I impress on you that if there was any indication in this case that the District Medical Society was trying to compel or force or put pressure on that hospital, they would have found it. It wouldn't have been left to a guess; to imagination; to your surmise, and it would not have been left to the able and capable argument of the prosecution to try to make you think it was exercised.

The truth about the matter is that the fact is directly to the contrary. The District Medical Society, throughout this case, was careful to see to it that in its conduct nothing could be charged against it, with any foundation in fact or reason which they have now charged before this jury. The statement has been made that by the capricious exercise of this power of approval they could compel the hospitals to do this or that. But did they exercise that power? Did you hear of a hospital stricken from the approved list by the District Medical Society? Did you hear of any pressure put on any hospital with reference to approval or disapproval? Why, do you think, in all honesty, that men of the type these eight hundred men were, who are in the Medical Society of the District of Columbia, would capriciously disapprove a hospital whose staff is made up mostly of its own members? Didn't you hear Dr. Willson on this stand state to you that in a contest between the District Medical Society and the hospitals men on the staffs of the hospitals would stand back of the hospital. Why? Because the hospital takes care of the sick; you and me. The hospital renders public service and takes care of its patients; and no decent, honorable man would quit the staff of a hospital because forsooth somebody on the District Medical Society, let's say capriciously, would disapprove that hospital.

But now, remember—as I told you—during the course and period of this matter the charge is made that the hospital committee of the District Medical Society was exercising this very pressure of power to approve or disapprove, and holding it as a threat over the heads of the hospitals; and then they said the machinery through which they could operate this power

was this fifth section, which was offered by way of amendment, and they add the white list, which they like to call it, which was an approved list sent out July 29, 1937.

First, let us see whether the evidence anywhere can relieve your minds of any doubt which you may have with reference to this argument on power.

Now, remember the machinery by which this power was to be put into effect was this white list; this amendment to the constitution. Remember further that the doctor who headed up the hospital committee was Dr. Warfield. Remember that the last report of the hospital committee of the District of Columbia was March 28, 1938 in the Executive Committee meeting and April 6 in the District Medical Society meeting. In other words, that report was approved first by the Executive Committee and then by the whole society.

Now, this report was called to your attention; argument was made about it to you yesterday. What about this capricious power of approval? What about this practice of the District Medical Society to approve or disapprove? This is the report:

"The Hospital Committee has purposely avoided the submission of the list of local hospitals for approval of the Medical Society."

They purposely didn't do the very thing which he argues they might have done. The fact is that purposely they did not submit any list for approval to the District Medical Society, so the argument which has been made to you couldn't find a basis in the evidence for making it. What else do they say? Why did they not submit it?

"The eleven local hospitals therefore remained approved by the Medical Society as of Nov. 4, 1936."

And nobody ever heard of G. H. A. before June 1, 1937.

Here is the reason why it avoided the very charge that has been made:

"To have attempted to reapprove these hospitals last fall or this winter"—

the winter of 1937—

"would have detrimentally created conflict between the Medical Society and some of the local hospitals because of attempted enforcement of the provisions of chapter IX, article IV, section 5 of the Constitution of the Medical Society."

Rather than create any conflict; rather than do the very thing which they argue they had the power to do they refused to even approach the question of a conflict with the local hospitals growing out of section 5, which I will come to clear up for you in a few moments.

And what is the last line of that report:

"The Hospital Committee recommends that the Medical Society continue their full cooperation and avoid conflicts with any of the local private hospitals."

Doesn't that sound like a conspiracy? First of all, if they were all in conspiracy they wouldn't be in conflict, because before you can find a conspiracy you must first find agreement, not conflict; and here is the last word that Dr. Warfield writes in his report, because the Hospital Committee went out of existence July 1, 1938. The last admonition which that report leaves with the Medical Society is:

"Cooperate with the hospital; don't have any conflict with them."

Is the District Medical Society now trying to advise their members to act in the public interest, for the good of the people of Washington, or are they trying to create a conspiracy in order to restrain G. H. A.?

Now, let us come to section 5 of this machinery. I think we have heard more of section 5 and the white list than anything else in this case.

What is the white list? In the summer of 1935 there had been some question, as Dr. Willson stated to you on the witness stand, with reference as to how doctors in the District Medical Society could join up with these compensation clinics, which were then coming into operation under the compensation law. It goes back once again to "contract practice," and you will recall that in June 1934 the American Medical Association had expressly held that contract practice was not per se unethical, and they gave as a guide to the members of the American Medical Association ten principles under which members should conduct contract practice. These compensation clinics had contract practice within the limitations discussed in these principles, and from the summer of 1935 down to January 1936 this section 5 was under discussion; and the way the description was phrased in there of these clinics was that where the profits of the clinic did not inure to the benefit of the Medical Association then the contracts between the member of

the Medical Association and the clinic should first be approved. Why? Because, just as Dr. Cabot stated—"I wouldn't permit any interference between doctor and patient; there cannot be any," and, therefore, no third party ought to come in to interfere between doctor and patient.

Here was a clinic making profit out of the use of doctors' services and keeping it for themselves, which is contrary to the public interest, however one might look at it, and we don't have to be a doctor to understand that. There then came an amendment in January 1937. Remember, the District Medical Society never heard of Group Health until June 1937; and then in March came the amendment, and that amendment was that they included within ten miles of the District of Columbia the operation of this section, and that required that any complaint with reference to any doctor connected with any clinic should be determined, not by the Society, and not by anybody but the Executive Committee of the Society.

Now, in January 1937 everything in that amendment had been fixed and settled except the reference to the Executive Committee as the proper committee for entertaining the complaint. That was passed in March 1937, and nobody ever heard of G. H. A. for three months thereafter, and yet they grasp that; they tear it out of the constitution of the District Medical Society, and they say "That is the one you were going to use in order to put into effect the white list, the boycott of G. H. A."

Now, the white list was prepared because, as the District Medical Society had then enacted this amendment to the constitution, as Dr. Willson told you, they authorized an approved list of clinics which had already been investigated and were determined to be operating in accordance with the proper standards in the public interest.

That white list was prepared initially in May 1937. Again I call your attention to the fact that that was six weeks before G. H. A. was ever heard of. Then they say on July 12, when you finally enacted the white list you modified it and you changed the words "connected with" to "employed by"; and they say Dr. Macatee, whom they didn't indict, whom they didn't even name as a conspirator—Dr. Macatee proposed that phrase "employed by" the United States instead of "connected with" the United States, did so in order that it wouldn't include G. H. A.

Now, do you think Dr. Macatee had anything like that in his mind? Do you think Dr. Macatee is some lawyer that sat there and thought "We will put in one of those weasling phrases," so that four months later, when the clinic opened up, the white list should be made to refer to G. H. A.?

And on July 29, in accordance with the resolution they sent to each one of the District Medical Society members the approved list.

They talk about medicine not being in favor of contract practice, and those are eight or nine clinics with some of the finest doctors in Washington connected with that. They even referred to Dr. Neill's connection with one of them. There is one Dr. Charles White is connected with. Eight or nine approved but forsooth we didn't approve G. H. A. How could they? Certainly on July 29 when Group Health didn't have a staff, you couldn't put it on the clinic approved list; and, furthermore, all the letter of July 29 was to each member of the District Medical Society telling them "If you have a contract kindly submit it to us so that we may see whether the contract ought to be approved."

Now, the Court will tell you that unless you find that everything that has been done with reference to Section 5 was done in pursuance to a conspiracy, then this organization, just the same as any other organization to which you might belong, has the right to prescribe its own rules and regulations; it has the right to have its rules and regulations observed by members of the Society. Why? Because no doctor is compelled to become a member of the District Medical Society. Dr. Brown, you recall, stated on the witness stand "I am not a member of the District Medical Society," when he was talking to Dr. Lee and Dr. Scandiffio. He said "They have no jurisdiction over us," and they did not, and have not. They haven't any jurisdiction over anybody who is not a member of the District Medical Society, but they do have jurisdiction over their own members, and they have a right to prescribe rules and regulations. Why?

Because whatever is done by a member of the organization reflects on the organization, and if an organization continues to permit a member to violate its rules and regulations, after all the Society is then put in a position which Dr. Macatee says Garfield would have been put in, of aiding and abetting whoever it was, was the subject matter of the violation; and, therefore, the District Medical Society, having the right to do this, only did what it did, in what it believed to be the proper practice of medicine. It only did what it did ultimately for the good of the patient and the good of the people.

Now, G. H. A. never submitted any contract. You remember I said to Dr. Macatee, after the 29th day of July, "When you left that meeting, saying to those men 'We are asking for information so that we may in turn advise our membership as to what attitude to take in the matter,' did you hear from G. H. A. again?" He said "No, never," and now they complain because they are not on the approved list. They couldn't be on the approved list on July 29 because they didn't exist in fact until November 1; and they couldn't have been on the approved list before that. They could have been on the approved list just the same as the nine other clinics were on the approved list if they submitted their contract for approval, and it was approved. But they refused to do anything in this regard or cooperate in any way, shape or form, just as Dr. Cabot said again, and I repeat: "because the lay body and these private clinics are tempted to interfere on the medical side of the clinic"—a clear distinction between what you find in hospitals where the administrative board of business men takes care of the business of the hospital, but the medical staff of the hospital are given charge of the medical side and conduct of the hospital.

Now, that is section 5. That is the white list.

Oh, but they say, "They sent the white list to the hospitals." There is this power again, and machinery by which it operates. Notwithstanding the fact that in evidence there is the clear refusal to exercise any power of approval in order to avoid any conflict with what? With what the hospitals might do with reference to section 5, and the white list?

And you will note on the white list—I haven't time to read it all over to you—but you will remember the testimony; they approved practically every organization in the District of Columbia, which was then in fact doing what? Practicing medicine; and they approved all the staffs of all the local hospitals. Why then shouldn't the hospitals have the statement made by the medical society that it approved the staff of the local hospitals?

Do you think back there on July 29, when the committee of the District Medical Society was still in force, still trying to get some information which they never could get—two months before G. H. A. ever opened its doors—that they sent that around in some conspiracy to crush or restrain G. H. A., which had not at that time opened its doors? There is a limit even to the stretch of our imagination and we are supposed to base our judgment on facts, and not on guess and surmise.

That is the white list. In their desperation, trying to find something to piece out and make you gentlemen and ladies believe beyond a reasonable doubt a conspiracy in this case exists they have combed the records of the American Medical Association and the District Medical Society, and they have taken every minute and piece of a minute, every word that was said by any man at any time, whether the Society took action on it or not; whether it expressed any opinion on it or not; and they have hurled it at us here as evidence that we were in some gigantic conspiracy, nationwide, with the tremendous power of the American Medical Society and the District Society—all one hundred ten thousand doctors, all of our hospitals and their staffs, medical and administrative, groups of agents and servants—all involved in this gigantic conspiracy to crush an organization which, I repeat, had not yet opened its doors and about which we never said "Boo"; concerning which we never tried to restrain them in the slightest degree. We never did a single thing to prevent them from doing any and everything they wanted to do; and we never did a single thing to restrict a single doctor who was on the staff of G. H. A. They say you did by expelling them. Dr. Scandifio; and with your threatened expulsion of Dr. Lee. Did we?

The Court will tell you that the District Medical Society, so long as it was not engaged in this gigantic conspiracy which they picture, had the right to have these regulations and enforce them. In his application for membership the prospective member agrees to abide by these rules and regulations. Again, the District Medical Society is a voluntary association. Both Dr. Lee and Dr. Scandifio knew that when they came into the Society, and while members of the Society; every rule and regulation. They had received the notification of July 29, and as honorable and decent men just as soon as they chose of their own volition to become a member of the staff of G. H. A., what did they do? They chose to resign. They had the right to do that. They could resign from membership if they wished; and they knew they should. And Dr. Brown, who was not a member of the District Medical Society; who was the Medical Director of G. H. A. told them that is what they should do, and they resigned. And then comes one of the strangest behind-the-scenes attack on the District Medical Society that you have had to listen to as jurors in this case. Right then, Mr. Penniman and Mr. Zimmerman, and a corps of attorneys representing them, felt that once more, if they could, they

would try to put the District Medical Society on the spot; and what did they do? They got together and said to Lee and Scandifio: "Take your resignations back. Write out a contract. Present the contract to the C. C. & I. N. Committee and demand a trial. We will put them on the spot,"—and back came the withdrawals of resignations, almost in identical words. And when Dr. Lee was on the stand I said "Did you get some help there?" He said, "Yes, I did." "Who were you talking to?" "Mr. Penniman and Mr. Zimmerman," and I think he said "Mr. Russell," chief counsel of the H. O. L. C. Just a cleverly worked-out scheme so that the matter could be presented to you ladies and gentlemen as though it was the result of regulations and the white list. They were prepared by lawyers, coached by lawyers, defended by lawyers; and what happened for four days? That is in evidence. Dr. Scandifio, with four lawyers, was tried on the question of his violation of two sections of the District Medical Society regulations.

Do you remember when I read to you the by-laws of G. H. A.? Did you see where G. H. A. was careful to preserve the rights to expel anybody, and who was it who could expel? The board of directors. And for what? For any good reason which the board of directors thought. Any appeal from that? No. Any protection to the subscriber? None.

Here was accorded to the doctors the full protection of their interests as to whether or not they had violated any provisions of the constitution of the Medical Society; and there has never been a final adjudication of that because the evidence is that the appeal has been taken to the American Medical Association Judicial Council and no action has been had on it yet. Why should there be with this furor and these accusations? What could medicine do under such circumstances?

Here they are threatened with the full power of a governmental agency and backed with all the advice of counsel trying at all times to make an embarrassing situation for our doctors. And what have our doctors done? What have they done to Dr. Scandifio now? Then he was on the staff; now he is Medical Director. Have we tried to restrain G. H. A. by making him get off? Have we tried to restrain G. H. A. in breaking up his services? Why, hasn't Willson, Dr. Willson told you that he has turned over his own patients again and again to Dr. Scandifio. Is there any ill will about it? Hasn't he told you that he considered him an able pediatrician, and that he told these young mothers to call him in? "My work is done: I will be glad to have you."

They talk about boycott; about not getting in the hospitals; about not being permitted consultations, and here you have these men, defendants, hospitals, telling you under oath, with no contradiction, the contrary.

Now, then, we come to the last point. They say "If you want to see a conspiracy in full operation just take Dr. Willson's resolution of November 3."

Why, ladies and gentlemen, they talk so much of that resolution they even printed it in the indictment. When you get in the jury room look it over: "Since we have the apparent right of hindering" or something of that sort "G. H. A."

And that they construe to be such material evidence of the conspiracy on the part of the District Medical Society—and how they were going to conspire is not known because a hospital is a private institution and can act individually and did act individually—and then we get the truth once more.

Dr. Willson came here and told you just how section 3 of the resolution of November 3 arose. Conspiracies don't arise in the manner in which they have charged here. Here you have an organization in which two hundred or three hundred are present. Did you ever get in a meeting of that kind where there wouldn't be differences of opinion?

Dr. Sprigg, another defendant, thought the hospitals should be acquainted with the fact that section 5 was somewhere tucked away in the constitution; and asked for cooperation. Now, remember, if we ask anybody to help us we are criminals. Somewhere they have advanced against Hooe that he said "We ought to call the hospitals together." Right in evidence here is proof that G. H. A. called the hospitals together. You remember the discussion of the appointment of the man from Georgetown?

Now, if G. H. A. can call the hospitals together, can't the District Medical Society call the hospitals together? Or is it that all these men have lost all human rights as American citizens so that they cannot discuss with each other what should and should not be done. And Dr. Willson told you he didn't agree with Dr. Sprigg; didn't like the idea and sat down one afternoon hurriedly, scratched together the resolution of November 3, and he called up Dr. Christie. "Do you think if I introduce this that I can check the Sprigg letter?" And "Can I beat Sprigg out in this vote?" And what happened? He

said the closeness of the vote said "I was right." I think he said it was 65 to 53. What did he do? They talk to you about the preamble and the whereases. Get to the real meat of the thing. It was a resolution recommitting the whole idea to committee, so that the committee might study the matter out, and so that there would be no mistake on the part of the District Medical Society, so that they might act as responsible, fair-minded men, and that is where it went; to that committee. And then, even yesterday, counsel for the prosecution admitted that on November 11 the District Hospital Committee recommended out—and I use his adjective—"an innocuous resolution." That is Dr. Warfield's committee; and those are the facts in that connection.

And then here is where Dr. Yager becomes a conspirator. The resolution of Dr. Warfield on November 11 was that the hospitals should take care of G. H. A. patients, but that members of the staffs of the hospitals should be recommended to attend them; just the rule that had been in effect so long in some of the hospitals, and yet they are all charged to be in a gigantic conspiracy because they had these rules; and Dr. Yager says: "Wait a minute, it doesn't appear whether G. H. A. doctors are on the staff. I move this matter be recommended," and he becomes a conspirator for making that statement to recommit it for further study. And Dr. Warfield's committee brought forth the December 1 resolution.

Now, gentlemen, the only way that you can possibly distort the December 1 resolution into any agency for the accomplishment of any conspiracy is by saying that every one of these men have lost their every last good motive, their decency, because in order to avoid the very imputation now hurled at them—these men whom you are asked to brand as conspirators—they start the resolution, emphasizing the purpose of it: "For educational purposes only."

Is that a threat? Wasn't it just as easy for these men, if they wanted to threaten, to tell the hospitals of the District of Columbia what would happen if they didn't do what the District Medical Society wanted them to do. Why is it necessary to distort the language and try to make it read something different from what it is? Dr. Warfield said, "For educational purposes only. We ask that you seriously consider the recommendation of the American Medical Association with regard to membership on the staffs of your hospitals being limited to members of the District Medical Society." And there is where the matter dropped.

You cannot find anything in this evidence where they tried to put that into effect; and the Court will tell you that unless you find they first conspired and then did this thing in pursuance of the conspiracy they were within their rights; they had the same right to try to persuade a hospital that you have or I have to persuade you. They had a right if they believed it in the public interest and for the best interest of the patient to urge that the local hospitals have on their staffs members of the Medical Society,—not by threatening them; not by putting pressure on them—but certainly, as citizens of this country, as decent members of their practicing profession, they had the right to say to the hospitals which they have built; which they protect; in which their life work is done; that they keep going; in which they treat their patients—they had the right to say what they did: "For educational purposes only," and they need have no fear of any lawyer distorting their language or trying to convert what they did into an act of conspiracy.

Why, they would forego everything that is near and dear to them, professionally and personally, and everything decent and honorable in a man if they were men such as you are asked to believe them. I have never heard decent, honorable men have their motives impugned as these motives have been impugned in their effort to build, construct or reconstruct, model or remodel this so-called conspiracy. Out of isolated acts; isolated statements made by members, they have tried to fit them into a framed-up charge of conspiracy, within a frame that does not fit the picture or a picture the frame.

That is the end up until the Warfield report, and this Warfield report is that on which they seek to hold Warfield as a conspirator. Just imagine what Dr. Custis did to become a conspirator. He is a member of the staff of Homeopathic, and he wrote a letter away back in the first week of November to the District Medical Society; and he said "there seems to be some question about the attitude of Homeopathic Hospital with reference to, maybe it is section 5, and in order that you may know how the Homeopathic feels about this, I want to tell you that we voted that we would not have anything to do with any organization which was not approved by your medical society." They didn't have any such rule in effect and you will remember when Colonel Randall was on the stand. They put him on the stand. I said, "Colonel, let's turn over the minutes." We turned

to the minutes which showed the enactment of that resolution. Dr. Custis was there with eight other businessmen. Mark you, those men whose names I read to you. One of them is in this bank over here on the corner of Seventh Street; another is an officer in the McLachlen Banking Company; another is in the real estate business in Washington here.

Now, Dr. Custis proposed this resolution. Colonel Randall disagreed with him. Colonel Randall said he wanted the business of G. H. A.; and they debated the thing back and forth in this meeting; the nine of them; and finally seven of the nine voted one way and two the other way. He said after that we were all one, and Dr. Custis was one of the seven. He is the one who had proposed the resolution; six others on that staff agreed with him, but Dr. Custis is indicted. Is that fair? Custis is indicted because he wrote that letter. Now, that is how far they have combed the testimony in this case to try to find something.

What have they against Dr. Hiram Reed? He sat as a member of the Executive Committee at the trial of Dr. Scandifio. That Executive Committee consisted of, I think, it has been read in evidence, thirteen or fifteen men. The others have not been indicted. The others weren't made conspirators. Some of them they select to be conspirators; some not. Just a whim. Just a whim and you can become a conspirator, sitting over there for two months charged with the violation of the law. Pretty careless and pretty serious thing. I wonder how long you think that an organization could exist so many years and, surely up to this time at least, not have been charged with anything, at least not more than with acts done for the furtherance of their organization and in the public good, will continue to act if they have to act at their peril; if every word they utter, every line they write to the inquiring public or the affiliated societies may be brought up years afterward to charge them as conspirators. Do you want Dr. Cutter to continue inspecting hospitals? Do you want him to continue trying to keep medical standards up in the medical schools? Do you want Dr. West to continue to operate these agencies to see that drugs and food consumed by the public are up to standard; to see that quacks and charlatans do not prey on the people? Do you want the American Medical Association to carry on what it has been doing? How can they carry on under a threat that if whatever they do their motives are to be impugned and questioned and they are to be compelled to sit over there nine weeks to answer charges of doing things which never entered their minds when the acts were done? Those are serious questions connected with charges of this character.

Now, let's go back to this final report: "All of the local hospitals are cooperating with the Medical Society with respect to Group Health Association." Isn't that too bad?

They seize that as evidence that there must be a conspiracy because there is cooperation. How can there be cooperation, ladies and gentlemen, I ask you seriously, in common sense, how can there be any efficiency in the operation of a hospital unless there is cooperation between the doctors and the lay administrators of the hospital? How can a hospital get on without cooperation, and yet if a man reports that the hospitals are cooperating with those people who have made them what they are he as well as the hospitals are charged, not with cooperating to insure better service for the public and medical care but to crush and destroy and restrain G. H. A. Now, the attitude of the hospitals has been shown. After Justice Bailey's decision on the question of legality, application to the hospitals were received by those hospitals and acted on. You heard Dr. Macatee on that stand testify that two applications came before him, and didn't he, as a member of that executive committee tell you that the Executive Committee had passed on those applications favorably; and the sneering imputation was to put into that action "Oh, you were afraid because of that indictment." How did Dr. Macatee know an indictment was coming down, and finally we learn that Garfield, with Dr. Macatee on the Executive Committee, had voted on the application and they did come down, at least one day before this indictment. Now, up to that time the doctors in the District Medical Society and in the American Medical Association here in Washington were in the position which Mr. Drayton stated to you he was in; which Garfield Hospital stated they were in: that during the time the test case was on file here in the District of Columbia to determine whether G. H. A. was legal or not—and you will remember I asked Dr. Cabot when he was on the stand: "Would you recommend a man for the hospital staff where you knew that the organization with which he was connected was then before the court for the purpose of having declared its legality or illegality?" and he said "No. I think I would wait for the result." And that is what they did here. Not that illegality is a defense. Don't think that any of these men had a

right to try to go out and destroy or restrain G. H. A. because they thought it was illegal; because all of us are supposed to know the law, but at the same time if you believe something is illegal then as Dr. Macatee in Garfield said "Let's wait until that action is determined, because we may find ourselves in the position of aiding and abetting an illegal organization; and then we would be in the position of aiders and abettors and subject surely enough to indictment for conspiracy."

Now I am leaving you with the word of assurance I gave you this morning. I told you that the criticism of Dr. Woodward in his article had done nothing but abound to the good of G. H. A. You remember he pointed out the very serious question of legality of G. H. A. from the fact of its practicing medicine and its being an insurance company. You will remember when Penniman was on the stand I showed you that as early as November, one month after the article was published, they had presented an amendment to their by-laws by which they cured the question of the illegality from the insurance standpoint; and again that they filed an amendment on the second day of May, which was read to you here—and perhaps the significance of which you didn't catch—but which and by which they cured the question of illegality, so that when Justice Bailey had the matter to decide in July it was an entirely different G. H. A.

I told you too, when I started this summation for you, that the beginning of this difficulty could be found in the answer made by Dr. Cabot, and that the answer to the doubts that you might have in your mind could be found in the answer of the witness presented on the last day. That witness is Dr. Scandifio himself.

In December 1938 he called on Dr. Wall, his old preceptor and friend, and he spoke to him in the presence of and with Selders and Price; and there he told Dr. Wall on the first occasion that he would like to speak to him again, and Dr. Wall went to Dr. Mallory, the president of the District Medical Society, and he said "Who shall I have from the District Medical Society talk with you?" They said "Dr. Macatee," and there they told him that having become dissatisfied with the work of G. H. A. as Price had, and with the quality of care they were able to give subscribers, they were willing to quit in a body; and if the staff quit that would be the end of G. H. A.

Did the Medical Society ask the staff to quit? There they had a chance not to restrain; they had a chance to crush G. H. A. Did they do it? There is your answer to this charge of conspiracy to restrain. There is your answer to a charge of conspiracy to destroy G. H. A. There is the opportunity presented right in the lap of the District Medical Society to take into its fold the entire staff of G. H. A. and unman the staff, to the destruction of G. H. A. Did they do it, or did they act as they have acted throughout their lives as decent, honorable upright citizens and practitioners of their profession? They said "No," and those men went back to their places. They went back to continue on the work of G. H. A. And just as on the first day you found the reason, on the last day you found the answer to this case; this case which has kept you here for going on nine weeks.

There has been no conspiracy except in the minds of those who would conjure up for some reason, I know not what, this charge to bring defamation and humiliation on these men who have spent their lives trying to do the best they could and now, when they have almost reached the end, they are compelled to face this, an unheard of accusation, under these peculiar and complicated circumstances; and I ask you, as you see them over there, whether or not you have not seen already laid on them the hand of time with an approval for what they have done; with the furrows of time in their checks, cut down in there, laborers for you and me. And I ask you that you send them back with a bit of encouragement to their life work to complete it to its end, and that they may not go down under the shadow of convicts for having violated a law of the United States.

Many of the defendants who have been witnesses have been across the water. Some of them are now engaged in the work of building up the national defense. Do you think men of that ilk and stripe would stand here and violate the law, or do you think they worked as they have worked for you, for me, for us all?

And I ask that by your verdict they be found free of this vile, this unnecessary, this sadistic accusation which would crush them to the grave.

(Thereupon a brief, informal five minute recess was had, at the conclusion of which the proceedings were resumed as follows:)

THE COURT:—Are you ready to proceed, Mr. Lewin?

Mr. Lewin:—Yes, your Honor.

CLOSING ARGUMENT ON BEHALF OF THE UNITED STATES

JOHN H. LEWIN

Mr. Lewin:—May it please the Court, and you ladies and gentlemen of the jury: I am sure you will all be glad to hear that I have an hour and seven minutes only, and whether or not I would like to continue on after that makes no difference, because I will have to stop.

Mr. Leahy's argument was just what I expected it to be—very, very able and persuasive indeed, if you happen to be emotional and if you are willing to shut your minds to your narrow task and to the overwhelming evidence that his clients have supplied.

I warned you yesterday about false issues, and I did it because I knew that no lawyer, even as able as Mr. Leahy, could address you and persuade you against the real issue, because of the lack of evidence in the record to talk about, and so he had to talk to you about false issues in the hope that by appealing to those false issues and to your sympathies you would be led away from the main track.

And so, as I told you yesterday, there is an attack on Group Health Association. It is to be outlawed. Why? The only reason you are in the jury box, he says, is because Mr. Penniman and Mr. Zimmerman exercised some lay interference. I took it down verbatim when he said it. Although the boycott against this organization had been planned and nearly perfected for months, day after day, night after night, and meeting after meeting recorded, before there could be any question of lay interference, before the clinic even opened. And that statement to you is hazarded although there is not a scintilla of evidence of any lay interference whatever. There might have been if Dr. Brown had not been cross examined. There might have been a scintilla, because you remember he said what they wanted was a rubber stamp. But on cross examination he stated that there had not been any interference whatsoever between the doctors and the lay board.

Counsel grabs at Dr. Cabot's testimony, and that dear old Nestor of medicine told you frankly that there was a temptation in group practice on a prepayment basis for lay interference. And there is temptation in the hospitals, no doubt. But is it not a far cry from the existence of temptation and any evidence of the fact? You ladies and gentlemen know, from having heard this evidence, that there is nothing in it, not a thing.

Then he sets up some straw men so that he can have the pleasure of knocking them down, and as you see, he ably knocked them down. He insists on the right of the doctors to like and dislike, approve or disapprove, provided, he says, it does not amount to conspiracy. Well, that is the point. When people dislike to such an extent that they take affirmative action and go out and get help not only from their own members, but independent hospitals, and dictate to them under threat of disciplinary action, if you please, as they did with the resolution against the hospitals, even, that is not simply liking or disliking or approving or disapproving. That comes under his qualification, unless it amounts to a restraint of trade and a combination.

Nobody would have been indicted for liking or disliking in this case. The Grand Jury of the United States had the responsibility for indicting and picking out the people they thought, on the evidence before them, were the ringleaders.

Then he even attacks the Government lawyers. Well, maybe we are fair game too. However, we have lived with you now, face to face, for two months, and you ought to have some kind of an appraisal of us.

He says that the only restraint in this case is the restraint that we put on the evidence. Ladies and gentlemen, that comes from a gentleman who had one calendar month to bring in evidence on his defense, if he had any, and he devoted at least three fourths of the time to reauthenticating, reaffirming and rereading to you ladies and gentlemen the very evidence that the Government had introduced.

He says we are attempting to poison your minds, arouse your passions. I disclaim that. I do not want any emotional verdict at all, and I know you do not. I want an honest, sincere verdict on a conviction. If the evidence is not there, there should not be one. If it is there, there should be. Nothing more, nothing less, no matter who are the defendants.

A doctor is not any more above the Federal law than the poor little cigaret vender or orange vender on the street that Mr. Leahy feels offense at because there is some comparison between the two. There is not a bit of difference.

That charge that we are trying to arouse your passion comes from a man who devoted at least 90 per cent of his time here in a most eloquent appeal, practically a confession, and throwing himself on your sympathies.

He pretends that this is a case brought against the medical profession as a whole, and then he proceeds to defend the medical profession as a whole, when it is nothing of the kind. What does his reference mean with regard to the doctors being present when children are born and being in the presence of death? Does that appeal to logic and to the evidence?

What does he mean when he refers to war records, of a war over twenty years old, and participation in national defense? Is that any issue in this case?

Does he claim that the American Medical Association, this powerful corporation that attends at childbirth and deathbeds is not a corporation of the District of Columbia? Does that have any bearing at all?

Then in a most able way he defends the rights of hospitals to decide for themselves who shall be on their courtesy staffs, forgetting that by bringing this case, by shedding the light of day on these tactics, we are vindicating that right that hospitals have in a far more effective way.

We too say, and have said all along, that hospitals not only have the right but the duty to decide these questions independently, on advice as to standards, if you please, and not under pressure.

Then he goes into an elaborate discussion designed to show that the American Medical Association is not opposed to group practice, forgetting, or wanting you to forget, that no contention of the kind has ever been made. The contention is, and it is borne out by the proof, that they have opposed with all their might, group practice on a prepayment basis; and they have a rule, which they enforce, that prevents them from doing anything except to oppose it. And that is the kind of group practice that Group Health Association employs, and that is the kind that the Ross-Loos clinic is, and that Trinity was, and the Milwaukee Center and the Cincinnati attempt, and all the rest. There is unanimous opposition to that kind of group practice, unless the members of the District of Columbia Medical Society themselves, or the A. M. A., operate those plans and come in on that business. They are the ones and the only ones, because their rule which they enforce to govern plans for low-income groups expressly provides it.

And then he attacks the evidence from his own clients in this case. He attacks it, although no witness that he put on the stand had the temerity to attack those contemporaneous records. One man, and one man only, you remember, qualified two little damaging statements, and when he got through with his qualifications he left you exactly where you were when he started to qualify. That was Dr. Macatee. I read it to you yesterday. He attacks that evidence, although those written records, taken down contemporaneously, jibe with every other piece of evidence and check absolutely with the resolutions adopted, and are approved—read and approved in most cases—always approved—by the Society as its minutes, and sometimes when there is an error in them the error is corrected before it is approved.

I may be able to return again to some of those false issues, but I want now to stress a chain of facts, not manufactured by the Government, not what somebody said and may not have meant, although when we put in the evidence of what they said we put in the fact that it was said over and over and over again, with reference to formal resolutions advisedly and carefully adopted by the full society.

And, ladies and gentlemen, when you come to consider your verdict, and consider it on the evidence, please do not forget the words of this resolution which the Grand Jury set out in the indictment and which was passed by the full vote of the Society—not some gossipy, ill advised statement that might be qualified, but a formal document which they all approved:

"WHEREAS, The Medical Society of the District of Columbia has the apparent means of hindering the successful operation of Group Health Association if it can prevent patients or physicians in its employ being received into local private hospitals; and

"WHEREAS, The Medical Society of the District of Columbia has no direct control over the policies of such hospitals as determined by their lay boards of directors except through control of its own boards serving on their medical staffs"—

And another recital to avoid publicity that they are attempting to enforce section 5; and then this:

"Resolved, That the Hospital Committee be, and is hereby, directed to give careful study and consideration to all phases of this subject and report back to the Society at the earliest practicable date its recommendations as to the best way of bringing this question"—

That is, Group Health—

"to the attention of the Medical Boards and the boards of directors of the various local hospitals in such a manner as to insure the maximum amount of accomplishment with the minimum amount of friction and conflict."

And the author of that said he wanted that because he did not like the other method of doing the same thing, which was by letter.

Don't forget that Warfield reported, and his report did not go far enough to reach what they wanted to do. Mr. Leahy did not make the correct statement of what this defendant proposed, because he proposed, and it was passed, that it be recommitted to the Hospital Committee and assurances obtained that no member of Group Health Association was on the courtesy staffs of the hospitals. That was their job, the job the Society gave the committee to do—to consider that job when it considered the wording of the hospital resolution of December 1, which starts off—

"As an educational policy we recommend the Mundt Resolution rule"—

which had not been enforced in a single hospital up to that time. It had been on the books of Emergency, but not enforced. It had not been on the books of any other single hospital.

Do not forget the reason for those clever words—"as a matter of educational policy," when the whole point of the resolution was to get this result without bringing down adverse publicity, because the public would not stand for it, and without bringing friction between the Medical Society and the hospitals. No. They wanted them to cooperate. To cooperate in what way? Cooperation is not bad, says Mr. Leahy. Oh, no. But he does not read you the next phrase—"cooperate against Group Health Association." That was the kind of cooperation wanted.

Oh, no; it is not a crime to cooperate, provided, as Mr. Leahy says, that you are not conspiring. But when you are cooperating, knowing that you are furthering a conspiracy—and that is what they intended—that is unlawful.

Bear in mind, ladies and gentlemen, the hospitals are not defendants; and in order for you to decide the issue, the only issue, you do not even have to find that the hospitals made their decision with regard to the Group Health doctors solely because of this pressure. All you have got to find is that these defendants plotted and planned to use this pressure against them.

Let us come to the hospital situation again. But before I do that I want to try to leave with you one of the most salient things.

After they had given the Hospital Committee this job and had it started on its work to obtain assurances that no Group Health doctor could be on the staff, what do you think of this frank confession of a defendant in this case, seriously, man to man and man to woman? Here is Dr. Mattingly:

"I frankly admit the following acts of professional leadership successfully accomplished."

Does he leave an implication there for us to draw some invidious inference from? Leadership? He says, further:

"I personally raised the question and forced the issue of compelling wavering and undecided hospitals to deny courtesy privilege to staff members of G. H. A."

Not poor Dr. Selders who is attacked on the basis of those three gossipy letters, but qualified members of Group Health Association. Remember this, if you will. He is not gossiping, not talking ambiguously about some disreputable government attorney in violation of his professional ethics—I mean, professional moralities—trying to distort its meaning. Can the meaning of this be distorted?

"That the proper agency of the Medical Society be instructed to present at our next stated meeting the facts relating to the present status of Group Health physicians at the various Washington hospitals preliminary to appropriate disciplinary action in event any hospital has ignored the Medical Society's wishes in the premises."

Does this case rest simply on distorting inferences?

And then this (indicating) is the result of that very thing. And won't you remember this—Formal action of the Executive Committee and formal action of the District Medical Society at a meeting in April, when Dr. Woodward was sent here to advise. Mr. Leahy says that all he did was to advise counsel, but he was present and heard this formal action taken. Was this some gossipy letter whose meaning has been distorted?

"The Hospital Committee has purposely avoided the submission of a list of local hospitals for approval of the Medical Society. The eleven local hospitals therefore remain approved by the Medical Society as of Nov. 4, 1936."

Why? The rest of it shows they purposely avoided raising the question of approval again, because they wanted to avoid friction and conflict and yet get the same result. And they remained approved, because they obeyed the behest under the threat of disciplinary action against the independent hospitals that owed a duty to the public:

"To have attempted to reapprove these hospitals last fall or this winter would have detrimentally created conflicts between the Medical Society and some of the local hospitals because of attempted enforcement of the provisions of Chapter IX, Article IV, Section 5 of the constitution of the Medical Society."

Now, this is the way he wrote it first:

"In an effort to hinder the operation of Group Health Association, Inc."

And then he crosses it out and puts in:

"maintain the high standards of practice."

And that is the way it appears in the minutes.

Does that throw any light on why Cutter can use soft words when he enforces the Mundt Resolution and yet get the same results as he would if he had used more drastic action, as he said? Does that throw any light on why the December 1 resolution to enforce the Mundt Resolution started out, "As a matter of educational policy," when what they meant was to "hinder the operation of Group Health Association"? Because that was the authority under which this report was prepared. And then they say "maintain the high standards of practice in the local private hospitals, the Medical Society adopted a resolution on Nov. 3, 1937 directing the Hospital Committee to recommend the best way of bringing the questions involved to the attention of the Medical Boards and boards of directors of the various local hospitals to insure the maximum amount of accomplishment with the minimum amount of friction and conflict. On Dec. 1, 1937 the Hospital Committee submitted a resolution, which was adopted, that the Medical Society recommend to the hospitals that they follow the recommendation of the American Medical Association."

That is Cutter's recommendation, the Mundt Resolution that Cutter was obtaining observance of at this very time, from July 1937 to November 1937:

"namely, that each hospital appointee be a member of his or her local medical society and a member of the American Medical Association."

That was to meet Yater's demand that assurances be given that Group Health Association doctors could not be on the staff. This does it. When Lee and Scandiffio are to be expelled, no member of Group Health Association under that resolution can be a member of the courtesy staff of the hospitals.

Then he recites this resolution that I have just recited to you, offered by Mattingly, who was in the position of professional leadership, to raise again and force the issue of requiring recalcitrant hospitals, under threat of disciplinary action, to go along "in event any hospital had ignored the Medical Society's wishes in the premises."

He strikes that out. This (indicating) is dressed up:

"The Hospital Committee reports that, at this time, the majority of local private hospitals contain in their by-laws a provision that a physician in order to practice in the hospital must be a member or qualified for membership in his or her local medical society."

"Only three of the local hospitals (Columbia, Sibley and George Washington) have not followed this recommendation of the American Medical Association."

And he understated the facts, because Columbia had agreed to observe it and George Washington had agreed to observe it.

"All of the local private hospitals are cooperating fully with the Medical Society"—

And there is where Mr. Leahy stopped and asked you whether there was anything wrong with that, without going on to say—

"cooperating fully with the Medical Society in respect to Group Health Association, Inc. At the present time only one of the local hospitals has on its staff list the name of a physician connected with Group Health Association, Inc. This hospital does not revise its staff list annually, as do the other hospitals, but it has assured the chairman of the Hospital Committee that steps have been taken to deny this physician hospital privileges."

"The Hospital Committee urges that the Medical Society continue their full cooperation and avoid conflict with any of the local private hospitals."

Of course, when they had everything their own way, without conflict by this Hospital Committee and by Cutter's recommendations, why should they head into a conflict and bring about adverse publicity which the Willson resolution wanted them to avoid?

I ask you, ladies and gentlemen, if there is any more powerful evidence that you can imagine on the narrow issue of

whether these defendants were planning to restrain Group Health Association, mentioned in these very resolutions, by putting pressure, the threat of disciplinary action, if you please, or cooperation, if you want, on the medical staffs, which are almost entirely composed of their own members—to put pressure on the hospital directors, to prevent not Dr. Selders alone, but all of the G. H. A. staff, whether those doctors on the staff were already members of the courtesy staffs of the hospitals or not?

Let me call to your minds again, so that there will be no mistake, and that this case will not go off on some false issue of what this man Castle writes that some man named Higgins writes that some people around Worcester, unidentified, have whispered about what Dr. Selders' sister said of him—a letter that comes months after they had made their decision at Garfield, and it is based on a recommendation of the Surgical Service and signed by the defendant McGovern, that if they approved this Group Health doctor they would be "aiding and abetting Group Health Association"—and I quote the exact language. Don't let it go off on that issue.

Remember, Dr. Hulburt got the same treatment. His application was tabled at Columbia until he resigned from Group Health, and then he was immediately given privileges; denied the privileges he already had at Georgetown, and as soon as he resigned from Group Health on April 25, he got his privileges in May.

Dr. Price applied to Homeopathic Hospital in the early part of 1938 and never received an answer. Price was admitted to Garfield, not during the period of the indictment, but the medical staff recommended that he be admitted on the day before this indictment comes down, at the end of a long two year period.

Dr. Scandiffio, a member of the staff of Homeopathic Hospital and Sibley Hospital. The superintendent of Homeopathic Hospital said:

"Action awaits the action of the District of Columbia Medical Society."

He was a member of Sibley, and that hospital assured the chairman—and I am not stretching the facts—that "steps will be taken to deny him his privileges there."

Richardson abruptly resigned from Group Health Association, cutting it off from his services on July 15, because he feared the loss of his hospital privileges.

Halstead, applying in August to four or five hospitals, and in October to another one, got no response and no admission.

Sibley Hospital had a list in the admitting office, listing Brown, Wells, Hulburt, Lee and Scandiffio, saying, "These doctors are not to be allowed in at any time."

Am I putting any false construction on the evidence?

And then, even as to Selders—and I am going to say a word for Selders, and I am going to say it from the evidence in this case as I have said everything else; and see what construction you will put on this kind of evidence in the record of Dr. Selders' qualifications as a surgeon.

His reference, Alexander, writes to Casualty Hospital:

"His professional qualifications in surgery are well above the average and ethically and morally he has always been above reproach."

Walter E. Lee writes:

"He completed this basic year (University of Pennsylvania Graduate School) satisfactorily. He then went to Worcester, Massachusetts, and spent a year in clinical training, and I understand his work there was satisfactory to his preceptor."

Would you want any better recommendation than that?

MacIver wrote to Casualty Hospital:

"He participated in the surgical work of the hospital (Worcester City Hospital) considerably and had an opportunity to gain considerable competence."

Then he lists his operations, hundreds of them, and says:

"From the above I think you can conclude that his surgical training is such as to give him competence."

MacIver, again, to Columbia Hospital:

"We find that he was listed to operate on 273 cases, 190 of which may be classed as Major and 83 as Minor. He may have assisted or otherwise participated in considerably more than are shown here. Gynecology is here absorbed in general surgery and one may assume that he had considerable contact, therefore, with gynecological surgery."

Coole, Secretary of the Harris County Medical Society, the society that brought disciplinary proceedings against him because he joined Group Health Association, writes:

"Dr. Selders is a member of this society in good financial standing. His record here is clear and shows that he is academically and professionally well qualified. I have been given to understand that recently

he completed his Master's degree in Surgery at the University of Pennsylvania, which should further qualify him."

And then he concludes, even after that kind of clear statement of his record, and speaking of his connection with Group Health Association—and here is the reason they are opposed to him:

"If the allegations are found to be true, Dr. Selders will be subject to disciplinary action on the part of the Society."

Meaning the Harris County Society.

Eisenman, Superintendent of Garfield Hospital, writing to Surgical Service, pointed out:

"This is not a 'run of mine' case, and your action may be far reaching. Information shows him to have sufficient training for personal recognition, when compared with many now approved for courtesy privileges at Garfield Memorial Hospital."

Better than their own men.

"He is a member in good standing in A. M. A., county and state medical societies in Texas."

And Dr. Henry Rolfe Brown, writing to Penniman, speaks of Selders' general practice, including surgery, in Houston, before he goes West for seven years, and speaks of three hundred and thirty-eight operations which he performed at Worcester Hospital and concludes:

"Dr. Selders is an experienced surgeon and has been in practice for about seven years and is splendidly qualified by his experience as a general surgeon."

Contrast those letters and that record of that absent man with the three letters that they bring against him—Castle's hearsay on hearsay—and I don't take that back for one moment—Berry to Bullard, or Bullock, or whatever his name was, hearsay on hearsay, that gossipy, personality thing, and this man Johnson, who did not know him, but he is sure that he is "likely to get into somebody's hair." Contrast his record as a surgeon, contrast those with the ones I have read to you, which need not be distorted—because I am not that kind of a man; Mr. Leahy seems to think I am. But they do not need to be distorted; they are just as clear as crystal. Contrast those and see whether Selders was turned down on his qualifications. And it doesn't make any difference if he was, as I said yesterday, if he had the qualifications of Sir William Osler, he was face to face with opposition that he could not crack. The stage was set against him by the Mundt Resolution in all these hospitals and by the cooperation that had been obtained under the threat of disciplinary action against the hospitals. Would he have been any more kindly treated than Scandiffo and Hulburt and Richardson and the rest? It is an idle issue, because, when you examine the records of each one of those hospitals—and I was not able to do it yesterday and I will not be able to do it today—you will find that each one of them is opposed to the entire Group Health staff, and each and all of them uniformly are given the same identical treatment.

Can you account for that in any other way than that these defendants, dominating those medical staffs and dominating the chance of those hospitals to be on the registration and on the approved list, exercised that domination as they said they would in order to keep out Group Health Association? Please ask yourselves that question. Along with it, ask yourselves whether I have tortured that written evidence.

Then comes the attack on Mr. Penniman; and this is what the defendants thought of him and of his will to cooperate with them, although when he asked for cooperation they gave him none. When Group Health Association came to them and asked for bread they got a stone, and when they asked for an egg they got a scorpion, because the cards were stacked against them when they came there.

On July 21 the defendants had already learned about Group Health Association, what little they knew about it. All they knew was that it was group practice on a prepayment basis, and that it was unethical and none of the members could have anything to do with it. But he comes there, and you will remember page after page of the record that disclosed how he answered every question propounded to him, and he even told them what was none of their business, and that is that the H. O. L. C. had appropriated a sum of money for two years to help it get started. He even told them that. So he gave them the substance of all of this hullabaloo in regard to the contract, and at the close of the conference this occurred:

"I think that all of us present tonight appreciate just what these gentlemen have done. They have been kind enough, good enough, to come down and meet with us. They have answered all our questions and have not denied us at all, no matter what their own personal feeling may have been concerning some of them."

And then there was a suggestion for another meeting, and that was accepted, although when the defendants' committee came down ostensibly to present some plan of cooperation they had already prejudged the case and decided against them and had withheld information about their so-called principles of medical ethics.

What else do you want to know about Mr. Penniman? You saw him on the stand. There is no evidence against him. There is evidence for him. Dr. McGovern said there was no doubt in his mind that the lay members of the board of directors of Group Health Association "are thoroughly convinced that they are doing a splendid thing for their employees." He was further convinced that they were not doing anything that might be considered unethical by them.

Dr. Macatee urged the Society not to base its opinion on the idea that there are certain scurrilous people who are trying to do a scurrilous thing to the Medical Society and doing it in an underhanded, scheming way.

The counsel for the defendants did not take that good salutary advice. He is willing to plunge out here, without any evidence to support him, and make that kind of a charge.

It was Dr. Macatee's impression, gained from contact with certain individuals, that "they are highly intelligent people who have profoundly studied the subject."

Remember that criticism of poor Mr. Zimmerman, that he went off half cocked and did not take any advice. Do you remember Dr. Cabot's saying that the proper place to get advice on the business side was from a business man, and on the medical side it was from doctors? And do you remember that Zimmerman went to Stanocola and read up on the subject, for his business side, and that he went to the Surgeon General and to Colonel Jones and to Dr. Brown, and to that grand old man, Dr. Cabot, just about the time the clinic opened, for advice on the medical side:

"These people are aware of all the social currents flowing through the country with respect to the relation of the medical profession and the people. They are aware what has been done elsewhere, and the result. My feeling is that it is a group of earnest, rather public-spirited people who are undertaking to do something for the benefit of their associates. They are convinced they have secured what they call competent legal advice, that they are on secure legal ground. They have, by reason of their knowledge of similar projects elsewhere, become convinced that where such organizations spring up they almost constantly receive the antagonism and the animosity of the local medical profession."

Does this begin to account in your minds for why they did not care to hand over their private contracts with the knowledge that Macatee attributes to them? It was Macatee's opinion that their desire to avoid publicity in this matter was due to their knowledge of that fact.

They had knowledge of Ross-Loos and of Milwaukee and of Chicago Medical Center, and Trinity; they had the report back from Jones that the Medical Society would kick out—I use Jones's very words from the witness stand—would kick out of the Society anybody who joined; and they had Mr. Zimmerman's talk with Woodward, who said, according to Mr. Zimmerman, that when the A. M. A. met at Atlantic City it would be the end of Group Health Association. It was a wonder that it was not. Do you agree with Macatee that there might have been some reason why they did not want to hand out the contract? They were regarded as outlaws, and plottings and plannings went on against them at some sixty or seventy meetings, mainly concerned with how they could best oppress Group Health Association. There is page after page after page in the record of plottings on these economic questions. Have you any doubt as to the real reason for this opposition? Their principles of so-called medical ethics? Not what was said on the stand—conduct becoming a gentleman, the Golden Rule and the Ten Commandments. The witness was not thinking of the Ten Commandments Mr. Leahy is thinking about. He was thinking about the Ten Commandments that were inscribed by Moses on the tablets.

Can you find anything about Group Health, its plans, its standards, its activities, its personnel, the way it approached its problems, that by any stretch of the imagination could be unethical in any sense such as the witness described?

What they meant was this. They meant these economic rules, preserving free choice, so that all the doctors in the local medical societies could get in on this plan. Otherwise they were unethical.

Against public policy? They would brand as immoral or as immoral any plan that would seem to cut in on their purse. What did they mean by "public policy"? You remember the article that was written. It was not just a gossip article:

"The effect of the withdrawal from private practice of even one half that number of persons, all of whom are able to pay for service, would materially diminish the incomes of physicians in private practice in the District of Columbia."

And that is stricken out, and this innocuous phrase is used: "against public interest."

That is written in instead.

There is a frank definition of what "public policy" means. And yet it goes down in the article as simply a statement that it is against the public interest, and you are to be led to believe that it is really unethical in the moral sense.

But the frankest people on this subject of the true motive and reason behind this oppression are West, Yater and McGovern.

Counsel for the defendants says Government counsel accused these fine professional men of cheap commercialism. I deny it. They have accused themselves. All I have done is to present the humble message of what they said, to you ladies and gentlemen of the jury.

Woodward writing to Neill says that he sent this article down to Virginia and Maryland suggesting that there is something for them to do, and he says that the members of the Medical Societies in the counties immediately adjacent to Washington have an active personal interest in the matter that physicians in Maryland and Virginia, in the more remote parts of the states, have not.

What is that interest that people in nearby territory have? On the subject of morals? Not at all. On the subject of finances? Oh, yes. Yater says that a system of prepayment immediately fixes medical fee schedules at a reduced scale and to adjust them would be well nigh impossible.

Are they talking about morals, the ten commandments and the Golden Rule? McGovern frankly said that he looked on Group Health Association movement as an organization coming in and interfering with his business. He said he expected to be in practice for some twenty years, and he did not propose, if it could be avoided at all, to have an organization such as was proposed interfere with his work and income.

Have I distorted anything in charging them with cheap commercialism, when I have shown you that there was no moral ground for this opposition, and when I have quoted verbatim from what they said themselves about their purposes?

And so, ladies and gentlemen, let me leave this case with you, with the hope that you will recall, not these side issues, and without emotional feeling, but just quietly and intellectually recall, on the subject of consultation boycott, the instructions

that Neill gave to Thomas Lee that he could not meet him in consultation, notwithstanding the ethics of the A. M. A., because he was a member of Group Health Association's staff.

Remember, on the subject of the staff boycott, the fact that good old Dr. Lee subjected himself to a hearing, charged even after he had resigned, and then induced to resign the very night of the second hearing.

And, ladies and gentlemen, remember, if you remember nothing else on the hospital boycott, how it was pointed out in June and July that members of Group Health could not be put on the courtesy list of hospitals without their connection with Group Health being mentioned; in fact, that it would have to be camouflaged to the nth degree.

And then remember, if you will, this resolution to hinder, not the unsuccessful operation of Group Health Association, but the successful operation of it, which is the only kind of operation that would really cut in on them, if they could prevent them from being received in the local private hospitals; and remember the chain of facts and circumstances that stand uncontradicted, of what they did pursuant to that solemn requirement, and the result which they achieved where they cooperated a hundred per cent successfully.

THE COURT:—Members of the jury, it is too late to submit the case to you today, because necessarily it will take some time to instruct you concerning the law, and in view of the long day which you have had in listening to the arguments of counsel I will postpone it until tomorrow. I know that it is unnecessary to repeat my admonitions to you. I know by your demeanor throughout the case that you have them firmly in your minds. But now, after the arguments and before you finally get together in your deliberations and before you hear the statements of the Court concerning the law, I think it is well to warn you against reaching conclusions until you understand the law of the case, until you are able to sit together and discuss and consider the issues. So, for the present, just keep the matter in abeyance and wait until tomorrow until you leave the court room to consider of your verdict.

You may be excused until tomorrow morning at 10 o'clock.

(Whereupon, at 3:35 p. m. the Court adjourned until tomorrow, Friday, April 4, 1941, at 10 a. m.)

[This completes the proceedings of the trial. The charge to the jury by associate Justice James M. Proctor was published in THE JOURNAL, April 12, p. 1700.]

MEDICAL ECONOMIC ABSTRACTS

CALIFORNIA PHYSICIANS' SERVICE

The report of the first year and a half of operation of the California Physicians' Service ended Dec. 31, 1940 shows that growth in membership has been slower than anticipated. The service has to be sold, which requires time and effort. The contracts are made with groups, a process which often requires long negotiations. At the time the report was issued the membership was somewhat in excess of twenty thousand. This slow growth is not considered wholly undesirable. Many problems have been uncovered in the course of operation, and experiment is less costly with a small than with a large membership. The growth of professional membership has been fairly steady and amounted to five thousand three hundred and eight physicians who had accepted the conditions of practice under the plan at the time the report was issued.

There was considerable expense involved in the organization. This meant that there was a deficit which was replaced from professional membership registration fees and from loans from the California Medical Association. Not until November 1940 did the income meet the costs of administration and the payment of medical fees. A total of \$62,897.55 was taken from the fund provided by the California Medical Association and the registration fees from physicians. The receipts from beneficiary members did not exceed \$10,000 in any one

month until January 1940, but it had reached more than \$35,000 at the close of that year.

Payments to physicians are made on the "unit system," and since June 1940 the value of the unit has become \$1.35. It is realized that this does not represent an adequate payment of physicians, but up to the present the amount of work done by each doctor has not been enough so that this low unit value seriously affects his income. The trustees suggest the following measures governing future operation:

1. In order to secure promptly a sufficient volume of membership to carry overhead, required percentage of participation was established at 40 per cent (for the larger groups). It is well known that, the higher the percentage obtained in any group, the more satisfactory the experience. This percentage is being and will be further increased.
2. For the same reason, the first and easiest groups to be obtained were taken. This has resulted in an unsatisfactory percentage of women. Our enrolment force is now concentrating effort on securing more industrial groups.
3. Medical direction has had to be learned from experience, which has proved expensive to the fund in many instances. This department is now functioning with much greater smoothness than at first and with correspondingly fewer "leaks."
4. Overhead is just under 25 per cent. With steadily increasing membership, this will be reduced. There is no reason to doubt that we can eventually reach an overhead of 10 to 15 per cent. This will automatically increase the unit value. We have passed the experimental stage, to a large extent, with

respect to administrative methods, development of office routines and procedures, and this will contribute too to the lessening of the percentage of revenue required for administration.

5. It is the experience of other service organizations that each new group contracted is more expensive to serve during the first year or two of membership than thereafter. There is every reason to believe that our experience will be similar.

The suggestion is also offered that the example of the Michigan Medical Service be followed and a new type of contract with limited provisions should be offered in order to increase the membership in the lowest income group. Such a contract might cover the professional services of a surgical operation and certain injuries together with hospitalization.

COOPERATIVE PROGRAM IN SCHOOL HEALTH

The first step in a cooperative program in school health care of the St. Louis County Health Department with the Medical Society of St. Louis County was to change a "physical examination" previously conducted largely by lay workers at the school to a "medical examination" conducted by family physicians in their offices. The stereotyped school examination conducted previous to 1937 resulted in the correction of only 3 or 4 per cent of the defects. When the same examination was repeated in successive grades, it was found that about 95 per cent of the old defects still existed, plus some new ones. When the medical examination was transferred to the family physician's office and the presence of the parents was required, corrective treatment followed in a much larger percentage of the cases. In 1939, 91 per cent of the parents accompanied their children to the physician's office.

One hundred and forty-three physicians made these examinations without charge. Parents who were able paid the physician for corrective treatment; those unable to pay could be referred by the physician to the health department, which arranged with the county hospital for necessary care. Medical participation of the family physician in the local health program is extended to contagious disease, tuberculosis, venereal disease and particularly to maternity hygiene. In 1938 and 1939, one thousand two hundred and eighteen deliveries were made without a single maternal death.

OHIO ENABLING ACT FOR MEDICAL SERVICE PLANS

The enabling act sponsored by the Ohio State Medical Association (House Bill 51) to prepare the way for establishment of a plan endorsed at the recent meeting of the house of delegates of that association has now become a law.

Any corporation "desiring to establish, maintain and operate a medical care plan must obtain from the superintendent of insurance a certificate of authority or license to do so." Each such application must contain a full description of the proposed medical care plan and also evidence "that the medical care plan which the corporation proposes to operate, the articles of incorporation and any amendments thereto, and the regulations and by-laws of such corporation have each

been approved by the established medical association, society or academy of each county lying wholly or partly within the territorial boundaries described in the articles of incorporation or any amendments thereto. The term 'established medical association, society or academy,' as used herein, means the medical association, society or academy maintained in the county by a majority of the duly licensed physicians and surgeons residing therein."

This appears to permit the establishment of county plans rather than a single statewide plan. No certificate is to be issued unless written agreement to enter the plan has been obtained from at least one physician for each five hundred subscribers. It is also provided that "the relationship between a duly licensed physician and surgeon rendering professional services under such plan and such subscriber shall constitute the ordinary relationship of physician and patient; and no action based upon or arising out of such relationship shall be maintained against a corporation operating a medical care plan in compliance with the provisions of this act."

The enabling act does not enter into any further details of the type of organization that shall be formed, but the state medical association has developed a rather complete outline of those that it will approve.

TEXAS MEDICAL SERVICE PLAN

An enabling act which the House of Delegates of the State Medical Association of Texas directed its legislative committee to prepare has been introduced into both the House and the Senate of the Texas state legislature. The proposed bill does not set up a fixed plan but rather establishes certain principles and boundary lines for the guidance of county medical societies. It is believed that this law will enable any county society to bring about an organization of physicians to provide medical service for certain income groups on a monthly prepayment basis without disturbing the personal relationship of physicians and patients. No third party will be brought into the picture except for the purpose of distributing money collected on a prepayment basis. The organization will not be under obligation to furnish medical service for anybody. It merely promises to pay the doctor whom the participating patient employs his proportionate share of the money collected for that purpose.

The plan has been in operation on an experimental basis in Dallas County since July 1, 1940, when a charter was obtained from the state department of insurance to operate a plan on a nonprofit basis. The Ford Motor Company with one thousand employees expressed a desire to join in the experiment, and according to the *Dallas Morning News*, over six hundred of these employees were enrolled at a cost basis of \$1.50 a month. This covered sickness or accident with medical services paid for whether in the doctor's office, the patient's home or the hospital. For 50 cents additional, each employee was given a policy by Group Hospital Service which allowed him the services of any hospital he preferred when such need arose.

After six months of operation under the plan, all parties concerned are greatly pleased. The required 60 per cent (six hundred and thirty-four employees) enrolled at first has voluntarily grown to practically 100 per cent, or one thousand, one hundred and thirty-four employees. Approximately 10 per cent have had medical or surgical service. Of this number 12 per cent have had surgical care in the hospitals and the remainder, or 88 per cent, have required medical care outside the hospitals, in the home or office. During the first six months of operation of the plan only forty-four of ninety-six men who have received service lost time from work. There was a decrease of 85 per cent in time lost through sickness over the six months prior

to the plan, and time lost from work on account of sickness has decreased 92 per cent.

Dallas physicians have cooperated wholeheartedly with the plan. There are five hundred and twelve members of the Dallas County Medical Society, and four hundred and eleven of these are registered with the plan. There have been numer-

ous requests from other groups desirous of being enrolled under the plan, and requests have come in from many cities of Texas for information concerning its workings.

The bill that has now been introduced into the legislature will permit the plan to be extended to other counties throughout Texas.

MEDICAL LEGISLATION

MEDICAL BILLS IN CONGRESS

Change in Status.—H. R. 4545 has passed the House, authorizing an appropriation of \$150,000,000 for the construction and operation of necessary community facilities in connection with national defense activities. Under the provisions of the bill the Federal Works Administrator, with the approval of the President, may, among other things, (1) maintain and operate public works and (2) make loans or grants, or both, to public and private agencies for public works and equipment thereof, and make contributions to public or private agencies for the maintenance and operation of public works. The term "public works" is defined to mean any facility useful or necessary for carrying on community life, including schools, waterworks, works for the treatment and purification of water, sewers, sewage, garbage and refuse disposal facilities, public sanitary facilities, "hospitals and other places for the care of the sick," recreational facilities and streets and access roads.

Bill Introduced.—S. 1459, introduced by Senator Reynolds, North Carolina, proposes to establish a Chiropody Corps in the Medical Corps of the Army. Appointments in the Chiropody Corps will be in the grade of first lieutenant originally, and officers of the corps are to be promoted to the grade of captain after three years' service, to the grade of major after twelve years' service, to the grade of lieutenant colonel after twenty years' service and to the grade of colonel after twenty-six years' service. The bill also proposes to establish within the Medical Corps a Chiropody Reserve Corps.

STATE MEDICAL LEGISLATION

Florida

Bills Introduced.—S. 412 proposes to condition the issue of a license to marry on the presentation by each party to the proposed marriage of a certificate of a licensed physician that (1) the party is not epileptic, insane or feeble-minded and is free of pulmonary tuberculosis in a communicable stage and (2) the physician has obtained a smear and specimen of blood from the party, which he has submitted to the Florida State Board of Health and that the state board of health has reported

to the physician that the smear and specimen submitted to it indicates that the party is free from any communicable venereal disease. H. 599 proposes to authorize the Board of County Commissioners of Baker County to levy on taxable property in the county an annual tax in addition to all other taxes not to exceed 2 mills annually, to be used and disbursed by the board of county commissioners to care for indigent inhabitants of the county who are in need of hospitalization and medical care.

Bills Passed.—S. 341 passed the senate, May 5, proposing to require every physician attending a pregnant woman for conditions relating to pregnancy to take or cause to be taken a sample of her blood at the time of the first examination and to submit the sample to an approved laboratory for a standard serologic test for syphilis. S. 360 passed the senate, May 6, proposing to authorize the city of Tallahassee to establish and operate a public municipal hospital and to issue its certificates of indebtedness in such amount not greater than \$400,000 as is necessary to establish and equip the hospital.

Missouri

Bill Introduced.—H. Res. 125 proposes to create a committee to investigate certain abuses alleged to result from the administration of the workmen's compensation act "in that many and sundry insurance companies have a working alliance with several doctors, especially so in the larger industrial areas where a small clique of said doctors now exist." This resolution apparently stems from a recommendation adopted at the last convention of the Missouri State Medical Association that the state workmen's compensation act be amended because "It is not an established fact that the employee has the advantage of an unbiased opinion on the witness stand by a physician who is being used repeatedly and paid by the insurance companies" and because a physician selected by the insurance company is not always the most competent in his community.

Pennsylvania

Bill Introduced.—H. Res. 89 authorizes the speaker to appoint a committee of five members of the house to investigate the maintenance, operation and conduct of all state hospitals.

OFFICIAL NOTES

THE CLEVELAND SESSION

Reservations at Cleveland

Because of the large demand for hotel accommodations during the time of the annual session of the American Medical Association there are few such accommodations left. The Allerton Hotel has completed arrangements to have the Cruise Liner *Secandbee* lie in dock at the foot of East Ninth Street, just one and one-half blocks from the Cleveland Public Auditorium, during the week of the session beginning at 7 a. m. Monday, June 2, and ending at 6 p. m. Friday, June 6.

Accommodations on the boat and rates are as follows:

- A. Inside cabin, running water, 2 berths, \$4.25 a day per cabin.
- B. Outside cabin, running water, 2 berths, \$4.75 a day per cabin.
- C. Outside cabin, private toilet, 2 berths, \$5.75 a day per cabin.
- D. Outside parlors, double bed, bath, \$10 a day per parlor.
- E. Outside parlors, twin beds, couch, bath, \$12 a day per parlor.
- F. Outside parlors, twin beds, couch, bath, private deck, \$15 a day per parlor.

For single occupancy of cabins there will be \$1 reduction on the daily cabin rate. All reservations will be accepted as double

accommodations unless otherwise specified. A "Continental Breakfast" every morning is served to guests without charge. Those desiring to take advantage of accommodations on the *Secandbee* during the week of the session are requested to write to Dr. Edward F. Kieger, 1604 Terminal Tower, Cleveland, Ohio, indicating the kind of accommodations desired, the date of arrival and the names of all those who will accompany them.

RADIO BROADCASTS

The last three programs to be broadcast in the series "Doctors At Work" are as follows:

- May 21. Physician to the Community.
- May 28. Doctors' Hobbies and The Doctor as a Citizen.
- June 4. A. M. A. Convention.

The program is scheduled over the Blue Network of the National Broadcasting Company Wednesdays at 10:30 p. m. eastern daylight saving (9:30 eastern standard) time (9:30 Chicago daylight saving, 8:30 central standard, 7:30 mountain standard, 6:30 Pacific standard time).

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION AND PUBLIC HEALTH.)

ALABAMA

Annual Clinical Meeting at Tuskegee Institute.—The thirtieth annual clinic and twenty-fourth annual meeting of the John A. Andrew Clinical Society was held at the John A. Andrew Memorial Hospital, Tuskegee Institute, April 6-12. Guest clinicians were Drs. Edward V. L. Brown and Dallas B. Phemister, professors of ophthalmology and surgery, respectively, Department of Medicine, University of Chicago.

Mental Hygiene Program.—Dr. Archibald M. Gaulocher, Wingdale, N. Y., has been added to the staff of the state department of health as associate in charge of the division of mental hygiene. He will cooperate with county medical societies and other groups in the operation of mental hygiene programs in various parts of the state. Dr. Gaulocher graduated at Columbia University College of Physicians and Surgeons, New York, in 1929. He resigned from the Central Islip State Hospital, New York, after serving on the staff for eleven years to join the Alabama department of health.

Correction—Change in Health Officers.—Dr. Isee L. Connell, Birmingham, was recently appointed health officer of Clarke County. This notice was erroneously placed under Mississippi news in THE JOURNAL, May 10, page 2205.

CALIFORNIA

Laboratory Technicians Wanted.—Bacteriology graduates with at least six months' recent technical experience in a recognized public health laboratory are eligible to participate in a civil service examination just announced by the Los Angeles County Civil Service Commission. Applications must be filed by Wednesday May 21 to be considered for the examination. Beginning salary for the positions is \$155 a month. All candidates must possess a California State Public Health Laboratory Technician's Certificate. Additional information can be secured from Room 102, County Hall of Records, Los Angeles.

Society News.—Dr. Morris Fishbein, Editor of THE JOURNAL, Chicago, addressed the Alameda County Medical Association, Oakland, April 21.—Prof. Henrik Dam, Biochemical Institute, University of Copenhagen, recently discussed "Vitamin K—Its Role in Human Pathology and Its Application in Therapeutics" before the Los Angeles Academy of Medicine, successor to the Los Angeles Clinical and Pathological Society.—Dr. Clifford J. Barborka, Chicago, addressed the First District Dental Society in Hollywood, March 21, on nutrition.—A joint meeting of the Los Angeles Cancer Society and the Symposium Society was addressed in Los Angeles, March 26, by Dr. Frederick J. Taussig, St. Louis, on "Iliac Lymphadenectomy for Cervical Cancer."—Dr. Lewis A. Alesen, Los Angeles, discussed "Lesions of the Common Duct" before the San Diego County Medical Society, April 8, in San Diego.

The Langley Porter Clinic.—The cornerstone for a new clinic on the campus of the University of California Medical School, San Francisco, was laid April 5. The clinic, which will cost \$500,000, will be a neuropsychiatric unit of the state department of institutions and will be under the direction of the medical school. It will be named in honor of Dr. Langley Porter, dean emeritus and professor of medicine and lecturer in medical history and bibliography, emeritus, of the medical school. Dr. Aaron J. Rosanoff, director of state institutions, was master of ceremonies. The speakers included Robert Gordon Sproul, Litt.D., president of the University of California, and Dr. Porter. The clinic will have about one hundred beds and an outpatient department and will be used for the care, study and treatment of acute psychiatric cases.

DISTRICT OF COLUMBIA

Psittacosis in Washington.—Psittacosis was reported in an employee in the birdhouse of the National Zoological Park in Washington, according to *Public Health Reports*, April 18. The onset of the disease was noted April 7.

Chicago Physician Named Dean of Howard.—Dr. John W. Lawlah, Chicago, has been appointed dean of Howard University School of Medicine, Washington, to succeed the

late Dr. Numa P. G. Adams. Dr. Lawlah graduated at Rush Medical College, Chicago, in 1932.

Air Survey to Determine Geographic Increase in Population.—Officials of Health Security Administration, sponsored by the Medical Society of the District of Columbia, recently made an air survey of Washington and adjacent areas in Maryland and Virginia to determine in which direction geographically the population is increasing, with the consideration that population trends are an important factor in choosing cities for new hospital facilities. Following presentation of the data collected, a resolution was passed providing for a comprehensive survey of the situation. The master plan would stem from three bases, the first to develop from study of the need of hospitalization. The second base has to do with the existing hospital and allied facilities to meet the needs, while the third base covers financial resources.

Borden Award to Chemist.—Claude S. Hudson, Ph.D., director of the division of chemistry, National Institute of Health, U. S. Public Health Service, Washington, was presented with the Borden Company Award at the meeting of the American Chemical Society in St. Louis, April 7. The award of \$1,000 was established in 1938 to stimulate fundamental research in the chemistry of milk in the United States. Dr. Hudson's address before the chemical society was entitled "Milk Sugar," a subject in which he has been doing research for many years. Dr. Hudson received his doctorate in 1907 at Princeton University. He was with the U. S. Department of Agriculture from 1908 to 1919 and with the Bureau of Standards from 1923 to 1928, when he became director of the division of chemistry of the National Institute of Health.

Campaign Against Venereal Diseases.—Newspapers reported, April 3, that a vigorous program to control venereal diseases would be carried out in the District of Columbia and nearby Virginia and Maryland as well as in neighboring army and navy detachments. Dr. George M. Leiby, director of the bureau of venereal diseases of the District health department, stated, according to the report, that almost nine out of every hundred District selectees were found to be afflicted with syphilis, indicating that ten thousand residents between the ages of 20 and 30 are affected with the disease. The drive will be financed by defense appropriations. Among the initial group whose "contacts" will be tested are eight hundred persons discovered in selective service examinations and one hundred and fifty persons who were found to have the disease when they volunteered as blood donors. Prophylactic stations will be set up in the District as one control measure, it was stated.

GEORGIA

Lectures by Dr. Karsner.—Dr. Howard T. Karsner, professor of pathology, Western Reserve University School of Medicine, Cleveland, lectured in Atlanta recently under the auspices of the Atlanta Clinical Society. His subjects were "Ovarian Tumor with Endocrine Dysfunction," "Hypertension" and "Paget's Disease of the Nipple."

Doctors' Day.—The Atlanta *Constitution* published a special supplement Sunday March 30 in tribute to the observance of Doctors' Day. The eight page supplement was compiled under the auspices of the woman's auxiliary to the Fulton County Medical Society in honor of the society's members. The auxiliary was assisted by the committee on public health and instruction and the committee on public policy and legislation of the society.

Changes in Health Officers.—Dr. Jewel G. Gainey, formerly of Blountstown, Fla., has been named assistant commissioner of health of Muscogee County with offices in Columbus, and Dr. Charles W. Harwell, health commissioner of Crisp County, Cordele. Dr. John R. Cain has been placed in charge of the health unit in Greene County, with headquarters in Greensboro. For the past two years Dr. Cain has been director of the division of industrial hygiene of the Alabama State Department of Health, Montgomery.

Foundation Donates Surgical Wing.—The Joseph B. Whitehead Foundation has made available to the Emory University School of Medicine, Atlanta, a gift of \$550,000 to construct and equip a surgical building. The new six story structure, to be named the Conkey Pate Whitehead Pavilion, will be erected as a wing to the present university hospital and will have five major and five minor operating rooms, roentgen ray facilities, rooms for sixty surgical patients and administrative offices of the medical school. The entrance wing will become the main entrance to the hospital. Dr. Daniel C. Elkin, who occupies the Joseph B. Whitehead chair of surgery, is head of the department of surgery.

ILLINOIS

Outbreak of Dysentery.—About 100 cases of dysentery occurred among the 2,285 residents of Carrollton, the state department of health reported, April 26. Since the department of health reported to local authorities on Aug. 31, 1939 that the local water supply could not be considered safe against possible pollution, the possibility that the outbreak may have been water borne is being investigated. The public water supply at Carrollton is drawn from a limestone spring and is treated only by chlorination. Preliminary tests showed that the drinking water in the week preceding this report did not conform to the drinking water standards of the public health service.

Chicago

Veteran Pharmacist Retires.—Mr. William Gray has retired as head pharmacist at Presbyterian Hospital after thirty-five years' service in that position. He has been succeeded by Malcolm Hutton, who had been assistant pharmacist for twenty-six years. The new assistant pharmacist is Franklin B. West, Belvidere, Ill.

Society News.—The council of the Chicago Medical Society and the council of the Illinois State Medical Society have voted to waive the 1941 dues of members inducted into military training and removed to training camps by the draft, by the National Guard or by virtue of being in the reserve. Any member who forwards a copy of his call to service to the secretary will immediately receive a 1941 membership card. In the event that the dues have already been paid they will be refunded. —The Chicago Ophthalmological Society was addressed, April 21, by Drs. M. Herbert Barker on "Hypertension, with Special Reference to the Renal and Ocular Vessels" and Philip M. J. Corboy, "A Corneoscleral Union for Cataract Operations." —Dr. Samuel M. Feinberg discussed "Drug Allergy: Clinical and Immunologic Considerations" before the Chicago Society of Allergy, April 21.

Surgical Award Announced.—The third annual award of the Chicago Surgical Society was presented at a meeting of the society, May 2, to Dr. Joseph Garrott Allen, research assistant in surgery, University of Chicago Clinics, for his paper entitled "Some Aspects Concerning the Physiology of Prothrombin and Vitamin K." Dr. Allen graduated at Harvard Medical School, Boston, in 1938. The annual prize of \$250 is offered to some young man in Chicago, who is not a member of the Chicago Surgical Society, for meritorious work in one or both of the fields of experimental and clinical surgery. Competitive papers for the 1942 award should be submitted on or before March 1, 1942 to the secretary of the society, without identification marks, accompanied by a sealed envelop bearing on its outside the title of the paper and containing within the name and address of the author. The secretary is Dr. Michael L. Mason, 54 East Erie Street.

INDIANA

Tuberculosis Meeting.—The Indiana Tuberculosis Association held its annual meeting at the Lincoln Hotel, Indianapolis, April 15. The speakers included Drs. Esmond R. Long, Philadelphia, on "Military Service and the Anti-Tuberculosis Campaign"; Henry Kennon Dunham, Cincinnati, "Guiding Epidemiological Principles for Tuberculosis Programs"; Horace M. Banks, Indianapolis, "Pathologic Aspects of the Lung," and Paul M. Harmon, Ph.D., Bloomington, "Physiologic Aspects of the Lung."

Society News.—The Indianapolis Medical Society devoted its meeting, April 15, to a discussion of chemotherapy as applied to pediatrics with the following speakers: Drs. Matthew Winters, Louis H. Segar, Lyman T. Meiks and Gerald F. Kempf. —Dr. Clyde G. Culbertson, Indianapolis, addressed the Northeastern Indiana Academy of Medicine, April 24, in Garrett on "How the Clinical Laboratory Can Help the General Practitioner." —Dr. David A. Boyd Jr., Indianapolis, discussed "Psychologic Trends in Modern Books and Literature" at an open meeting of the Madison County Medical Society, April 21. —Dr. Byrl R. Kirklin, Rochester, Minn., spoke on "Lesions of the Small Bowel" before the Muncie Academy of Medicine, April 8. —The LaPorte County Medical Society was addressed in LaPorte, April 17, by Dr. Raymond W. McNealy, Chicago, on "Management of Gallbladder Disease." —At a meeting of the Gibson County Medical Society in Princeton, April 14, Dr. Garold V. Stryker, St. Louis, spoke on common skin diseases.

IOWA

Annual Renewal Fees Due Before June 1.—All licenses to practice medicine and surgery in Iowa expire annually on June 30. To renew such a license a licentiate must make a written application to the state department of health before June 1, enclosing the renewal fee of \$1. If a license expires by reason of the licentiate's failure to renew it, it can be reinstated without reexamination only on the recommendation of the state department of health and on the payment of the overdue fees.

First Aid Course.—The Fremont County Medical Society, the Sidney Legion Post, the Fremont chapter of the American Red Cross and Fred H. Hill, editor of the *Hamburg Reporter*, sponsored a fifteen week course in first aid and accident prevention recently. Sixty-eight persons received certificates on satisfactory completion of the course, including students, an oil station employee, a school bus driver, a city fireman, telephone company workers, a rural mail carrier, a farmer, foreman, timekeepers and laborers. This was the third such course in Fremont County.

Symposium on Virus Disease.—The Iowa State Medical Society and the Iowa Academy of Science presented the second of their joint symposiums at Simpson College, Indianola, April 25, on virus disease. The speakers were Carl G. Vinson, Ph.D., professor of horticulture, University of Missouri, Columbia, on "The Chemistry of Viruses"; Dr. William M. Hale, professor of bacteriology, State University of Iowa College of Medicine, Iowa City, "Virus Diseases of the Respiratory Tract," and Chester D. Lee, M.S., of the veterinary division of Iowa State College, Ames, "Virus Disease in Animals."

KENTUCKY

Hospital News.—The name of the Danville and Boyle County Hospital, Danville, has been changed to the Ephraim McDowell Hospital in honor of the famous Danville surgeon who performed the first ovariectomy.

Postgraduate Course in Pediatrics.—A course of postgraduate instruction in pediatrics is in progress at the Children's Free Hospital, Louisville, Wednesday mornings from April 23 to June 25. The courses consist of discussion of interesting cases in the hospital, lectures and demonstrations by the staff of the hospital.

Society News.—Dr. Frederick H. Falls, Chicago, addressed the Jefferson County Medical Society, Louisville, March 17, on "Toxemias of Late Pregnancy," under the auspices of the Louisville Obstetrical and Gynecological Society. Drs. Leo W. Zimmerman and Richard Douglas Sanders addressed the society, April 21, on "Clinical Considerations of the Climacterium" and "Carbon Monoxide Asphyxia" respectively. —Dr. Edgar F. Kiser, Indianapolis, addressed the Louisville Medico-Chirurgical Society, April 25, on "Some Early American Medical Publications."

LOUISIANA

State Medical Meeting and Election.—Dr. Emmett L. Irwin, New Orleans, was chosen president-elect of the Louisiana State Medical Society at its annual meeting in Shreveport in April, and Dr. Paul King Rand, Alexandria, was inducted into the presidency. Vice presidents elected were Drs. Robert T. Lucas, Shreveport; Henry B. Alsobrook and Robert F. Sharp, New Orleans. The 1942 meeting will be in New Orleans. This meeting of the state society was dedicated to Dr. Frederick J. Mayer, Opelousas, who has been practicing in Louisiana since his graduation at Tulane University School of Medicine, New Orleans, in 1883. Dr. Mayer served as president of the Attakapas Medical Society, the oldest medical society in the state, in 1885 and as president of the Louisiana State Medical Society, 1913-1914. Among the out of state speakers were:

Dr. Ernest H. Gaither, Baltimore, Important Clinical Considerations of Gallbladder Disease.
Dr. Harvey G. Beck, Baltimore, A Study of the Effects of Combustion Products of Natural Gas on Public Health.
Dr. John D. Camp, Rochester, Minn., Osteoporosis and Its Significance in Relation to Systemic Disease.
Dr. Virgil S. Counsellor, Rochester, Minn., A Consideration of the Fascia of Broad Ligament with Respect to Certain Surgical Procedures on the Pelvis.
Dr. Brian B. Blades, St. Louis, Surgical Treatment of Bronchiectasis.

Dr. Holman Taylor, Fort Worth, Texas, delivered the annual oration of the society.

MASSACHUSETTS

Society News.—Dr. Arthur P. Stout, New York, discussed "Tumors of the Peripheral Nerves" before the New England Pathological Society, April 17.—Dr. Harold J. Harris, Westport, N. Y., discussed brucellosis before the Worcester District Medical Society, April 9, in Worcester.

Personal.—Dr. Merrill Moore has been appointed medical director of the Washingtonian Hospital, Boston.—Dr. Bardwell H. Flower, formerly of Boston, has been appointed superintendent of Worcester State Hospital, Worcester, to succeed Dr. William A. Bryan, who last year became superintendent of Norwich State Hospital, Norwich, Conn.—Dr. Benjamin W. Mandelstam, Bridgewater, has been appointed medical adviser to the Massachusetts Department of Public Welfare, serving in all departments relating to medical care.

Dr. Cannon Receives Friedenwald Medal.—Dr. Walter B. Cannon, George Higginson professor and head of the department of physiology, Harvard Medical School, Boston, is the first recipient of the Friedenwald Medal of the American Gastro-Enterological Association. The medal was presented during the annual meeting in Atlantic City, May 5-6, according to *Science*. Dr. Cannon received the award "in recognition of his pioneer utilization of the x-rays in gastroenterology, and his important contributions to the mechanics of digestion, to the elucidation of the sensations of hunger and thirst, and to the development of the science and practice of gastroenterology." Born in Prairie du Chien, Wis., in 1871, Dr. Cannon graduated at Harvard in 1900 and has held his present professorship since 1906.

MICHIGAN

Nursing School Becomes University Body.—The University Hospital Nursing School, Ann Arbor, established fifty years ago, has been separated from the hospital administration and set up as the University of Michigan School of Nursing with its own governing body, newspapers announced on April 13. The director of the school, Miss Rhoda F. Rettig, was named professor of nursing.

Highland Park Spring Clinic.—The second annual spring clinic of the Highland Park Physicians' Club was conducted at the University Hospital, Ann Arbor, April 9. Participating were:

Drs. Frederick A. Collier, Postoperative Pulmonary Complications: Their Prevention, Recognition and Management.
Dr. Herman Marvin Pollard, The Clinical Syndrome of Gastritis: Causes and Treatment.
Dr. Carl E. Badgley, Injuries of the Elbow Joint.
Drs. Cyrus C. Sturgis and Fred J. Hodges, Medical Roentgen Conference.

Society News.—Dr. Irvine H. Page, Indianapolis, discussed hypertension before the medical section of the Wayne County Medical Society, Detroit, April 14.—The West Side Medical Society was addressed in Detroit, April 16, by Drs. Samuel J. Levin and Frank L. Ryerson on "Eczema and Fungus Allergy" and "Common Diseases of the Fundus of the Eye," respectively. Both are of Detroit.—Dr. Frederick H. Falls, Chicago, discussed "Extrauterine Pregnancy" before the Ingham County Medical Society, Lansing, April 15.—Dr. Robert S. Breakey, Lansing, discussed "Gonococcal Infection in the Female" before the Calhoun County Medical Society, Battle Creek, April 1.

Annual Fracture Day.—The third annual "Fracture Day" will be observed at Hurley Hospital, Flint, on May 21 under the auspices of the Flint regional fracture committee and the Genesee County Medical Society. The following will speak:

Dr. Hardie B. Elliott Jr., Evaluation of Internal Fixation of the Neck of the Femur.
Dr. John H. Curtin, Plaster of Paris Technic.
Dr. Robert B. MacDuff, Pitfalls in X-Ray Diagnosis.
Dr. Raphael W. MacGregor, Fractures of the Spine.
Frederick C. Thorold, D.D.S., Fractures of the Maxilla.
Dr. George J. Curry, Internal Two Plane Fixation of Fractures of Long Bones.
Dr. Leon M. Bogart, The Radiologist in Relation to the Physician.
Dr. Donald R. Brasie, Fractures of the Shoulder Region.
Dr. Jackson E. Livesay, Osteoporosis and Osteogenesis.
Dr. Otto J. Preston, Low Back Pain.

NEW JERSEY

Fifty Year Practitioners Honored.—Twenty members of the Essex County Medical Society who have practiced medicine for fifty years or more were honored at a recent meeting of the society, marking its one hundred and twenty-fifth anniversary. Twelve were present. Scrolls of appreciation were presented to Drs. Edward J. III, Frederick W. Becker, Wells P. Eagleton, Fred Hexamer, Clement Morris, Caldwell

Morrison, Edward M. Zeh Hawkes, William S. Foster and Robert W. Chapman, Newark; James Henry Clark, Levi W. Halsey, Montclair; John H. Bradshaw, Harry E. Matthews and William M. Brien, Orange; Francis B. Lane and William H. Cooke, East Orange; Albion C. Christian, Irvington; Jacob S. Wolfe, Bloomfield; Henry J. F. Wallhauser, Mount Bethel, Pa., and Richard D. Freeman, South Orange.

NEW MEXICO

State Medical Meeting at Raton.—The fifty-ninth annual meeting of the New Mexico Medical Society will be held at the Hotel Yucca, Raton, May 26-28, under the presidency of Dr. William B. Cantrell, Gallup. The speakers will be:

Col. William Lee Hart, M. C., U. S. Army, Fort Sam Houston, Texas, The Medical Reserve Corps.
Dr. Ozro T. Woods, Dallas, Texas, Treatment of Intestinal Obstruction; Cancer of the Uterus and Its Treatment.
Dr. William R. Lovelace II, Rochester, Minn., (four addresses), Surgery of the Thyroid Gland; High Concentrations of Oxygen as a Therapeutic Agent and Methods of Its Administration; Transportation of Patients by Airplane—Indications and Hazards; Use of Sulfonamide Compounds in the Postoperative Treatment of Patients, Particularly Those Who Have Had Emergency Operative Procedures.
Dr. Hiram D. Newton, San Diego, Calif., Cutaneous Manifestations of Syphilis; Cutaneous Complications in Treatment of Syphilis.
Dr. Onis H. Horrall, Chicago, Fractures of the Os Calcis.
Dr. Richard Mays Smith, Dallas, Treatment of Arthritis; Recent Developments in the Treatment of the Pneumonia Patient.
Dr. Constantine F. Kemper, Denver, Twenty Years with the Use of Insulin; Importance of Technic of Weight Reduction.
Dr. James Rudolph Jaeger, Denver, Diagnosis and Treatment of Injuries to the Spine Involving the Spinal Cord and Nerves.
Dr. Louis W. Breck, El Paso, Texas, Treatment of Fractures in the Aged.
Dr. Ralph M. Stuck, Denver, Treatment of Nerve Injuries of the Upper Extremities.
Dr. Harold D. Corbusier, Plainfield, N. J., Medical Preparedness.
Dr. Meldrum K. Wylder, Albuquerque, Behavior Problems of Children.

There will be round table luncheons Monday and Tuesday and motion picture programs each day.

NEW YORK

New State Cardiac Program.—The state department of health announces a program for the care and treatment of children with rheumatic heart disease to be developed under the direction of Dr. David D. Rutstein, assistant professor of medicine, Albany Medical College, Albany. The program will stress the training of physicians in special cardiac clinics. A survey of the possible need and development of cardiac services in various parts of the state will be made, also investigations on the etiology, prevention and treatment of rheumatic fever and an evaluation of methods of treatment. Hospital care for children with early rheumatic fever will be provided through a ninety-six bed service at the New York State Reconstruction Home at West Haverstraw. The hospital service will be under the immediate direction of Dr. Thistle M. McKee. It is also proposed to establish a model cardiac clinic at West Haverstraw.

New York City

Lilly Award to Dr. Rittenberg.—The sixth Eli Lilly and Company award in biologic chemistry was presented at the spring meeting of the American Chemical Society in St. Louis, April 7, to David Rittenberg, Ph.D., instructor in biochemistry, Columbia University College of Physicians and Surgeons, for his work on isotopes as tracers of chemical action. Dr. Rittenberg is 34 years old and received his doctor's degree in 1934 under Prof. Harold C. Urey at Columbia.

Sectional Meeting on Physical Therapy.—The Eastern section of the American Congress of Physical Therapy held its spring session at the New York Polyclinic Medical School and Hospital, April 5. Speakers at the evening session were Drs. Disraeli W. Kobak, Chicago, "Treatment of Intercoastal Neuralgia by Short Wave Diathermy"; Earl C. Elkins, Rochester, Minn., "Skin Temperatures in Relation to Radiant Heat"; Walter M. Solomon, Cleveland, "Gout—A Prevalent Arthritic Disease," and Norman E. Titus, New York, "Present Status of Physical Therapy in the United States Army."

OHIO

State Medical Meeting in Cleveland.—The Ohio State Medical Association will hold its annual session, June 3-4, at the Hotel Cleveland in Cleveland, during the annual session of the American Medical Association. The state association will not present a scientific program and exhibits, but the meeting will consist of two meetings of the house of delegates for the transaction of business and election of officers.

OKLAHOMA

Society News.—Drs. Charles F. Paramore and Edgar E. Rice, Shawnee, discussed obesity at a meeting of the Pottawatomie County Medical Society, Shawnee, April 19.—Drs. Hugh G. Jeter and Wann Langston, Oklahoma City, addressed the Oklahoma County Medical Society, Oklahoma City, recently on laboratory diagnosis and therapy of the anemias.—Drs. Joseph W. Kelso and Charles P. Bondurant, Oklahoma City, addressed the Stephens County Medical Society recently on "Functional Bleeding" and "General Dermatological Conditions" respectively.—A symposium on peptic ulcers was presented before the Pittsburg County Medical Society, McAlester, recently by Drs. Tracey H. McCarley, Claude E. Lively and Will C. Wait, all of McAlester.—Dr. Arthur G. Schoch, Dallas, Texas, addressed the Tulsa County Medical Society, Tulsa, April 28, on arsenotherapy of early syphilis.

OREGON

Personal.—Dr. Thomas D. Robertson, Portland, has been appointed a member of the state board of health to succeed the late Dr. Roy A. Payne for a term ending Jan. 15, 1945.—Dr. Rudolph E. Kleinsorge, Silverton, has been appointed a member of the state board of higher education.—Dr. Blair Holcomb, Portland, has been appointed to the Oregon State Nutrition Committee for Defense.

Special Lectures.—The Oregon Academy of Ophthalmology and Otolaryngology and the University of Oregon Medical School sponsored a series of postgraduate lectures in Portland, March 31 to April 5, with Drs. Harold I. Lillie, Rochester, Minn., and Frank E. Burch, St. Paul, as the speakers.—The Portland Academy of Medicine presented a group of lectures at the University of Oregon Medical School, Portland, May 12-14, with Dr. Virgil H. Moon, Philadelphia, as guest speaker. Dr. Moon's subjects were "Circulatory Failure of Capillary Origin," "Shock: Conditions of Occurrence and Sequelae" and "Shock: Prevention, Early Recognition and Treatment."

PENNSYLVANIA

State Psychiatric Meeting.—The midyear meeting of the Pennsylvania Psychiatric Society was held at the Allentown State Hospital, Allentown, April 10. Speakers were Drs. Harry F. Hoffman and Max Rossman, both of the hospital staff, on "Results of Fever Therapy" and "Childhood Psychoses: Therapeutic Problem" respectively.

Philadelphia

Society News.—Dr. John F. Fulton, New Haven, Conn., addressed the Philadelphia Neurological Society, March 28, on "Physiologic Interpretation of Functions of Basal Ganglia."—Dr. Robert A. Müller, New York, addressed the Philadelphia Rheumatism Society, April 3, on "Role of Physical Therapy in Treatment of Arthritis."—Dr. John B. Price, Norristown, among others, addressed the Philadelphia Laryngological Society, April 1, on "The Autonomic Nervous System and Its Relation to Upper Respiratory Symptoms."—Dr. Erwin O. Strassmann, Houston, Texas, addressed the Obstetrical Society of Philadelphia, April 3, on "The Theca Cone, the Pathmaker of the Ascending Graafian Follicle."—Speakers before the Philadelphia Roentgen Ray Society, April 3, included Drs. Charles A. W. Uhle on "Urological Manifestations of Abdominal Aneurysms"; David M. Davis, "A New Table for Combined Cystoscopy, Roentgenoscopy and Roentgenography," and George W. Chamberlin, "Some Hazards Associated with Roentgen Diagnosis of Urinary Tract Disease."

Pittsburgh

Annual Meeting.—Speakers for the annual meeting of the Allegheny County Medical Society, May 1, were Drs. Marion B. Sulzberger, New York, on "Eczematous Dermatitis—Diagnosis and Management by the General Practitioner"; Norris W. Vaux, Philadelphia, "Importance of Blood Studies During Pregnancy" and Stuart W. Harrington, Rochester, Minn., "Diaphragmatic Hernia." Dr. Edward J. G. Beardsley, Philadelphia, was the guest speaker at the banquet on "What Life Teaches A Doctor."

SOUTH CAROLINA

State Medical Election.—Dr. Thomas A. Pitts, Columbia, was named president-elect of the South Carolina Medical Association at the annual meeting in Greenville, April 15-17, and Dr. George M. Truluck, Orangeburg, was installed as president. Dr. William Frank Strait, Rock Hill, was elected

vice president and Dr. Julian P. Price, Florence, secretary. Offices of the association will be moved to Florence from Seneca, where they were located for about thirty years, during the secretaryship of the late Dr. Edgar A. Hines.

TENNESSEE

Sectional Physical Therapy Meeting.—A meeting of the Southeastern section of the American Congress of Physical Therapy will be held in Chattanooga, May 25-27, at the Hotel Patten. Among the speakers will be:

Drs. Ralph S. Emerson, Roslyn, N. Y., and Kristian G. Hansson, New York, Clinical Application of the Portable Whirlpool Bath.
Dr. John S. Coulter, Chicago, The Scope of Physical Therapy in National Defense.
Dr. Charles I. Singer, Long Beach, N. Y., Application of Climate Therapy to General Medicine.
Dr. Oscar B. Nugent, Chicago, Application of Physical Therapy to the Specialties.
Dr. Max K. Newman, Detroit, Artificial Hypothermia (Freezing Therapy)—Experience with Twenty-Five Cases.
Dr. George W. Owen, Jackson, Miss., Physical Therapeutic Aids in Management of Allergic Conditions.

WISCONSIN

Physicians Honored.—Dr. Emerson A. Fletcher, Milwaukee, was honored at a testimonial dinner recently under the auspices of the Milwaukee Hospital Interns' Association. Dr. Arthur C. Hansen was toastmaster and speakers included Drs. Hans W. Hefke and John S. Gordon, Milwaukee, and Raymond A. Toepfer, West Allis. Dr. Fletcher recently retired after forty-seven years of practice.—Dr. Herman R. Ohswaldt, Oconto Falls, was honored recently when the mayor of the town proclaimed an "Ohswaldt Day." A radio program was broadcast in which friends and patients paid tribute to Dr. Ohswaldt. He is 83 years old and has practiced sixty-two years.

Society News.—Dr. Clifford G. Grulee, Evanston, Ill., addressed the Medical Society of Milwaukee County, Milwaukee, April 11, on "Advantages of Nursing at the Breast."—Dr. William C. Keettel Jr., Madison, addressed the Barron-Washburn-Sawyer-Burnett Counties Medical Society in Rice Lake, April 4, on "Advances in Obstetrics and Gynecology."—Dr. Max J. Fox, Milwaukee, discussed "Infantile Paralysis" before the Fond du Lac County Medical Society, Fond du Lac, March 27.—Dr. Berton J. Branton, Willmar, Minn., and George E. Crossen, M.S., Minneapolis, addressed the Polk County Medical Society in Amery in March, with druggists of the county as guests, on "The Roles of Physician and Pharmacist" and "Interprofessional Relationships" respectively.—Dr. Aubrey H. Pember, Janesville, addressed the Rock County Medical Society, Beloit, March 25, on asthenopia.—Dr. Henry R. Viets, Boston, addressed the University of Wisconsin Medical Society, Madison, April 22, on "Our Present Knowledge of Myasthenia Gravis."

WYOMING

Hospital News.—Dr. Joseph F. Whalen, superintendent of the Wyoming State Hospital, Evanston, resigned, April 30, it is reported.

State Medical Meeting at Casper.—The thirty-eighth annual meeting of the Wyoming State Medical Society will be held at Casper, May 18-20, with headquarters at the Gladstone Hotel. The guest speakers will be:

Dr. Robert D. Schrock, Omaha, Fracture and Dislocations of the Astragalus.
Dr. Robert G. Packard, Denver, Prevention and Treatment of Malunion and Nonunion in Fractures of the Long Bones.
Dr. Robert L. Jackson, Iowa City, Infant Feeding; also Respiratory Infections of Children.
Dr. Luman E. Daniels, Denver, Neurosyphilis, with Emphasis on Its Early Recognition.
Dr. Joseph Raymond Plank, Denver, Treatment of Varicosities and Their Complications.
Dr. Everett D. Plass, Iowa City, Uterine Fibroids; also Hypertension in Pregnancy.
Dr. George P. Lingenfelter, Denver, Some Recent Advances in Dermatology.
Gordon E. Davis, Sc.D., U. S. Public Health Service, Hamilton, Mont., Relapsing Fever.

Dr. Plass will lead a forum discussion on maternal deaths Monday morning, after which there will be a luncheon at the Natrona County Memorial Hospital at which Dr. Earl E. Whedon, Sheridan, will preside over a discussion of subjects presented at the morning session. A golf tournament will be held Sunday at the Casper Country Club and Community Course followed by a smoker in the evening at the Gladstone Hotel.

GENERAL

Medical Library Meeting.—The forty-third annual meeting of the Medical Library Association will be held at the University of Michigan Medical School, Ann Arbor, May 29-31, under the presidency of Col. Harold W. Jones of the Army Medical Library, Washington, D. C. Hotel headquarters will be at the Michigan Union. The program will include papers on the cooperation of libraries, union catalogues, medical history and industrial medicine.

Society News.—Maurice A. Bigelow, Ph.D., New York, was reelected president of the American Eugenics Society at the fifteenth annual meeting in New York March 31. Speakers included Frederick Osborn, New York; Dr. William Allan, Charlotte, N. C.; Dr. Edward J. Humphreys, Thiells, N. Y., of the New York State Department of Mental Health, and Morton D. Schweitzer, Ph.D., New York. The general topic of the conference was "Human Ability—Democracy's Basic Defense."

Infantile Paralysis Pamphlet in Spanish.—The National Foundation for Infantile Paralysis has published a Spanish translation of its recent pamphlet on "The Nursing Care of Patients with Infantile Paralysis" by Jessie L. Stevenson, R.N., consultant in orthopedic nursing for the National Organization for Public Health Nursing. The pamphlet, illustrated with line drawings, was prepared as a part of a project in orthopedic nursing sponsored by the foundation. It is intended to assist the public health nurse and others responsible for home care of patients with infantile paralysis. Copies in either Spanish or English are available free on request from the National Foundation for Infantile Paralysis, 120 Broadway, New York.

Annual Meeting of Diabetes Association.—The first annual session of the American Diabetes Association will be held at the Hotel Hollenden, Cleveland, June 1, under the presidency of Dr. Cecil Striker, Cincinnati. Speakers will be:

- Drs. Charles Best and Reginald E. Haist, Toronto, Ont., The Prevention of Diabetes.
- Dr. I. Arthur Mirsky, Cincinnati, Etiology of Diabetic Acidosis.
- Dr. Seale Harris, Birmingham, Ala., Hyperinsulinism: Induced and Spontaneous Hypoglycemia.
- Dr. Herman O. Mosenthal, New York, Standards of Diabetes Therapy.
- Drs. Julian D. Boyd, Robert L. Jackson and James H. Allen, Iowa City, Avoidance of Degenerative Changes in the Child with Diabetes Mellitus.

Dr. Elliott P. Joslin, Boston, will deliver the Banting Memorial Lecture in the evening on "Diabetes—Yesterday, Today and Tomorrow."

American Therapeutic Society.—The forty-second annual meeting of the American Therapeutic Society will be held in Cleveland at the Hotel Cleveland, May 30-31, under the presidency of Dr. Louis F. Bishop Jr., New York. Among the speakers will be:

- Dr. Oscar B. Hunter, Washington, D. C., Intoxication Tests for Drinking Drivers and Pedestrians.
- Dr. Harold S. Davidson, Atlantic City, N. J., Treatment of Septic Thrombophlebitis with Heparin and Sulfathiazole.
- Dr. Kenneth M. Lewis, New York, Present Status of Chemotherapy in Surgical Infections.
- Dr. Mathew Jay Flipse, Miami, Yellow Bone Marrow—Its Effect on the Leukocytes in the Peripheral Blood in Certain Cases of Leukopenia.
- Dr. Watt W. Eagle, Durham, N. C., Use of Estrogenic Substances in the Treatment of Atrophic Rhinitis.
- Dr. Frank W. Hartman, Detroit, Status of Whole Blood and Plasma Transfusion in Intravenous Therapy.
- Dr. Arthur C. Ernste, Cleveland, Angina Pectoris in Young Persons with Aortic Insufficiency.

Academy of Tuberculosis Physicians.—The annual session of the American Academy of Tuberculosis Physicians will be held at the Hollenden Hotel, Cleveland, June 2, under the presidency of Dr. Oscar S. Levin, Denver, who will speak on "The Specialist in Tuberculosis." Among the speakers will be:

- Lieut. Col. William C. Pollock, M. C., U. S. Army, Tuberculosis Problem During Military Mobilization.
- Col. David Townsend, M. C., U. S. Army, Bristol, Tenn., Post-influenzal Sequelae: Special Reference to the Lungs.
- Dr. Magnus B. Halldorson, Winnipeg, Man., Canada, Immunity in Tuberculosis.
- Lieut. Col. George F. Aycock, M. C., U. S. Army, Voluntary Termination of Artificial Pneumothorax: A Review of 200 Reexpanded Cases.
- Dr. Leroy Elrick, Denver, Coexistence of Chronic Pulmonary Tuberculosis and Syphilitic Aneurysm of the Aorta.
- Dr. Harry J. Corper, Denver, Technicality of the Tuberculin Tests: A Proposed Transdermal or Transcutaneous Test.
- Lieut. Col. Hugh W. Mahon and Capt. John B. Grow, M. C., U. S. Army, Contributory Causes of Death in Patients Suffering from Pulmonary Tuberculosis.

Meeting of Ophthalmologists.—The American Ophthalmological Society will hold its seventy-seventh annual meeting at The Homestead, Hot Springs, Va., May 29-31. Among the speakers will be:

- Drs. Phillip Robb McDonald and Francis Heed Adler, Philadelphia, Studies on Pigmentary Degeneration of the Retina: Role of the Melanophore Hormone of the Pituitary Gland in Pigmentary Degeneration of the Retina.
- Dr. Bernard Samuels, New York, Pathologic Anatomy of the Lens Following Corneal Ulcers and Corneal Scars.
- Dr. Arnold Knapp, New York, On the Operative Treatment of Congenital Subluxation of the Lens.
- Drs. Harry S. Gradle, Chicago, and Hyman Saul Sugar, Detroit, Wound Rupture After Cataract Extraction.
- Dr. Alexander E. MacDonald, Toronto, Ocular Kinetic Righting Reflex.
- Dr. Arthur J. Bedell, Albany, N. Y., Papilledema Without Increased Intracranial Pressure.
- Dr. Philip Meriwether Lewis, Memphis, Tenn., Gonococcal Conjunctivitis: A Comparison of Sulfanilamide, Sulfapyridine and Sulfathiazole in the Treatment of One Hundred and Twenty Cases.

Association for the Surgery of Trauma.—The third annual session of the American Association for the Surgery of Trauma will be held in Montreal, Que., May 29, with headquarters at the Ritz-Carlton Hotel, and May 30-31 at the Seignior Club. Dr. Fraser B. Gurd, Montreal, will deliver his presidential address Friday morning. Included among other speakers will be:

- Dr. Isidore Cohn, New Orleans, Fractures Involving the Elbow Joint.
- Dr. Clay Ray Murray, New York, Conditions Complicating the Treatment of Injuries to the Menisci of the Knee Joint.
- Comdr. Frederick R. Hook, M. C., U. S. Navy, Washington, D. C., Carpal Fractures as Seen in the Naval Service.
- Dr. Carleton Mathewson Jr., San Francisco, A Method of Ambulatory Treatment of Spiral and Oblique Fractures of the Tibia.
- Drs. Henry C. Marble and Edward Hamlin Jr., Boston, Injuries to the Peripheral Nerves.
- Dr. Grover C. Weil, Pittsburgh, The Local Therapeutic Effect of Sulfathiazole.
- Dr. Idys Mims Gage, New Orleans, Subcutaneous Traumatic Injury of the Abdominal Viscera.

American Heart Association.—The seventeenth scientific session of the American Heart Association will be held at the Hotel Statler, Cleveland, May 30-31. The Lewis A. Conner Memorial Lecture will be delivered Friday afternoon by David B. Dill, Ph.D., Cambridge, Mass., on "Effect of Physical Strain and High Altitude on the Heart and Circulation," and the George Brown Memorial Lecture, Saturday afternoon, by Dr. Alfred Blalock, Nashville, Tenn., on "Peripheral Circulatory Failure." Friday evening there will be a round table discussion on "The Soldier and His Heart" with the following speakers: Drs. Paul D. White, Boston; Bernard S. Oppenheimer, New York; Eugene S. Kilgore, San Francisco, and Comdr. John R. Poppen, M. C., U. S. Navy, Washington, D. C. Other speakers will include:

- Dr. Ashton Graybiel, Boston, The Range of the Normal Electrocardiogram Based on the Records of a Thousand Young Aviators.
- Dr. Ignacio Chavez, Mexico, D. F., Incidence of Heart Disease in Mexico.
- Drs. Irving S. Wright, Gerald H. Pratt and Michael Lake, New York, Effect of Ten Years of Occupational Sitting, Standing or Climbing Stairs on the Blood Vessels of the Lower Extremities.
- Louis I. Dublin, Ph.D., New York, Heart Disease and Public Health: Current Trends and Prospects.

Meeting of Chest Physicians.—The seventh annual meeting of the American College of Chest Physicians will be at the Statler Hotel, Cleveland, May 31-June 2, under the presidency of Dr. John H. Peck, Oakdale, Iowa. Included among the speakers will be:

- Dr. Chevalier L. Jackson, Philadelphia, Bronchial Obstruction as an Etiologic and Perpetuating Factor in Emphysema.
- Dr. Frederick H. Falls, Chicago, Pregnancy and Tuberculosis.
- Drs. William E. Ogden, George C. Anglin, William C. Kruger, Toronto, Canada, Foreseeing and Forestalling Tuberculosis: A Ten Year Study.
- Drs. Dean B. Cole, Walter L. Nalls, Richmond, Va., Management of Fluids Complicating Pneumothorax.
- Dr. Ralph C. Matson, Portland, Ore., A New Extrapleural Pack in the Treatment of Pulmonary Tuberculosis.
- Dr. Ralph R. Mellon, Pittsburgh, Some of the Newer Concepts of the Tubercle Bacillus and Its Chemical Susceptibilities.
- Dr. George G. Ornstein, New York, Clinical Aspects of Cancer of the Lungs.
- Dr. Willard Van Hazel, Chicago, Present Day Treatment of Empyema, a Report of Over 500 Cases.

Louis I. Dublin, Ph.D., of the Metropolitan Life Insurance Company, New York, will be the banquet speaker, discussing "The Next Ten Years in Tuberculosis: A Forecast."

CORRECTION

Thiamine Overdosage and Toxicity.—In the communication by Dr. Clarence A. Mills, Cincinnati, in *THE JOURNAL*, May 3, page 2101, the dose mentioned in the second line of the second paragraph should have been 10 mg. instead of 10 Gm.

Foreign Letters

LONDON

(From Our Regular Correspondent)

April 25, 1941.

The Total Casualties of the War

Official figures of the casualties of the war to date have just been published. They are as follows:

	Killed	Wounded
Civilians.....	29,856	40,897
	Killed and Missing	Wounded
Armed forces.....	37,607	25,895

Civilians classified as to men, women and children were:

	Killed	Injured and Detained in Hospital
Men.....	13,712	21,811
Women.....	12,112	15,893
Children under 16.....	3,644	3,193
Unclassified.....	388	
Total.....	29,856	40,897

The Destruction of St. Thomas's Hospital

Of all the great London hospitals, St. Thomas's has suffered most from the air attacks on London. The damage to it is estimated at \$5,000,000. Situated on the bank of the Thames opposite the houses of Parliament, it is possible to give the German bombers, who operate at a great height, credit for attempting to destroy the latter and not the hospital. But it can be said of them, here as elsewhere, that the bombing of hospitals—a thing which they have now done hundreds of times—is part of the practice of "frightfulness" and seems to be followed without any reluctance. Indeed, in the analogous case of hospital ships clearly emblazoned with the Red Cross, we have repeated examples of deliberate bombing.

The normal work of St. Thomas's Hospital has been transferred to the country, to a branch of three hundred and fifty beds in the heart of Surrey. It is built on the hutment plan and has been used as a hospital for Australian troops. The problem of housing the staff is difficult in view of the shortage of accommodation. As a war time measure, nurses and other members of the staff will live in huts. Altogether a staff of more than three hundred will be boarded and maintained. The students will be a few miles away in an old manor house. There will be a special ward for air raid casualties to children. The problem of catering for about one thousand persons transferred to the country will be solved by food convoys, which will travel to and fro from the parent hospital in London. Work at the latter has not entirely ceased. The accommodation for inpatients has been reduced from six hundred and eighty to one hundred beds. The normal outpatient department with its various clinics is being maintained, and casualties, including those from air raids, will be treated.

Polish School of Medicine Opened at Edinburgh University

The Polish School of Medicine, described as "the first demonstration by the scientific world against Hitler's 'new order,'" has been opened at Edinburgh University. The ceremony took place in McEwan Hall with Sir Thomas Holland, vice chancellor, presiding. The school is being provided for the Polish government by the senate of Edinburgh University. The first beneficiaries will be men who have completed their studies in Poland but who, because of the war, did not sit for their final examination. The dean of the Edinburgh Faculty of Law

presented the Polish president for the honorary degree of Doctor of Laws, saying that they admitted him to the roll of honor as a great lawyer, soldier, administrator and patriot. Expressing thanks, President Raczkiewicz said the world today, rent by the disaster of war, was seeking to evolve new forms in national and international relations and to set the ideas of justice and freedom against the spirit of conquest embodied in the "new order." He expressed the unshakable faith of his nation and himself that a world commonwealth based on Christian ethics and observance of international law would be born from the respect of the rights of individuals and nations and the sound cooperation of states in political and economic spheres.

The Danger of a Gas Attack

A gas attack on this country has been expected but has not occurred. Mr. Herbert Stanley Morrison, Home Secretary, stated in the House of Commons that the use of gas is abhorrent to the government and that under no circumstances shall we be the first to employ it. No attention should be paid to any attempt by the enemy to cast doubts on our attitude or to suggest that our defensive measures imply some intention to take the initiative. Unhappily we cannot put any faith in his statement that he will not use gas. His whole record shows that he will stop at nothing, and that if he thinks gas will give an advantage he will use it. Therefore we must be prepared. With the measures of protection now available there is no ground for alarm as to gas attacks, provided the precautions advised are adopted. The government is determined to ensure that the whole population is in a full state of preparedness. Mr. Morrison subsequently gave a broadcast urging every one to carry his gas mask at all times. Properly put on and properly used, it afforded complete protection against every form of war gas that was known. The enemy had declared that he would not use gas, but neutral observers in a good position to form an opinion publicly stated that Germany was making active preparations to use gas. His declarations commanded no confidence anywhere in the world. One of the likeliest reasons that he would was that he might regard gas as his last hope of doing what he had failed to do—to stampede the civilian population.

Mobile Unit for Physical Therapy

Lord Horder, president of the Chartered Society of Massage and Medical Gymnastics, presented, on behalf of subscribers, a physical therapy mobile unit, which is complete with its driver and a skilled masseur, for use in Red Cross work. It makes its own electricity for electrical treatment and will be used for visiting convalescent homes and hospitals in central England. The unit contains all the necessary apparatus for giving electrical and light treatments, such as galvanism, infrared rays, radiant heat, ultraviolet radiation and paraffin-wax baths. The unit is the first of its kind and is to be followed by others.

Smoking and the Use of Makeup by Nurses

Smoking and the use of makeup by nurses have given rise to some trouble. In one case a high military officer, inspecting a civil defense hospital, caused a sensation by expressing disapprobation of the lips of an important lady, a voluntary worker, who supervised the nursing. The outcome has not been published. The British Red Cross Society has been exercised as to these practices and has decided that present day conditions render it unfair to forbid nurses from smoking in uniform on suitable occasions, such as visiting theaters, restaurants and cinemas. But the society strongly discourages its women members from smoking outdoors in public, when in uniform. The same attitude has been taken by the heads of the woman services attached to the fighting forces. With regard to makeup, the society does not object to it when used with discretion.

A Physician Who Became a Great Ornithologist

The death of Dr. C. B. Ticelhurst at the age of 60 years has removed a great ornithologist. Educated at Guy's Hospital, his professional life was spent in general practice except for service in the last war at a military hospital. As an ornithologist he gained an international reputation. He visited many countries and in the course of these travels made an important reference collection of birds. His main interest was with the systematics, geographic distribution, migration and plumage changes of the birds of Palestine and the Indo-Burmese areas. In 1931 he became editor of *Ibis*, the quarterly journal of the British Ornithologists Union. At the time of his death he was engaged in systematic work on the birds of India, Burma and Ceylon.

BUENOS AIRES

(From Our Regular Correspondent)

Feb. 14, 1941.

Chemotherapy of Organic Arsenic Compounds

Arsenic compounds were recently discussed by Dr. Ernst Friedheim, privatdocent in the medical faculty of Geneva, Switzerland, who at present is engaged in scientific research in Buenos Aires, before the Argentine Association of Dermatology and Syphilology. He discussed a new synthetic arsenic compound of which he is the discoverer, namely a sodium salt, 4,4'-dihydro-arsenobenzene-3,3'-bis [(azo-2) naphthol-1-disulfonic acid-4.8]. It is a dark blue violet substance containing 13.8 per cent of arsenic readily soluble in water but insoluble in lipoids. Unlike nearsphenamine, this compound can be produced in a crystalline, analytically pure form. It does not contain the orthoamino-oxyl and the aminomethylene-sulfoxy-late groups which make nearsphenamine an unstable product. It preserves its stability indefinitely in contact with air if kept dry and in a laboratory temperature of from 64 to 82 F. This substance seems to be able to transcend the hematoencephalic and hemato-ocular barrier.

It has already been tried out on trypanosomiasis and in syphilis, both in French and in British colonial possessions. In 41 cases of trypanosomiasis it was able to cause Trypanosoma to disappear from the blood, the lymph nodes and the cerebrospinal fluid. Clinical symptoms rapidly receded. Seventeen cases of syphilis of the skin were treated in Africa and 23 cases in Santiago de Chile. In the State Institute of Bacteriology of Chile the spirocheticidal action of the drug could be observed ultramicroscopically day by day in the dermatologic clinic of Professor Prats. The cases were chancre and papuloerosive cases and were treated with from 0.25 to 0.5 Gm. of the new compound. The effect can be judged from the fact that in 13 cases one injection, in 8 two injections and in 2 cases three injections killed off the spirochetes.

The new drug in somewhat heavier doses (10 per cent) possesses a more rapid spirocheticidal effect (43 per cent) than nearsphenamine. Tolerance of the drug in all cases of syphilis as well as in trypanosomiasis was good.

Professor Baliña, syphilologist, in whose clinic experiments with the new drug are being made, pointed out that the chief value of the drug resided in the fact that cerebromedullary cases of syphilis could be treated with it. If it could actually clear the hematoencephalic barrier and make the fine nerve tissues accessible to therapeutic action it would take the place of pentavalent arsenic compounds and of malaria therapy.

Heart Diseases in Children

Dr. José María Macera, associate professor of pediatrics at the university of Buenos Aires and director of the children's clinic in the Hospital Pirovano and of the medicosocial service of the Public Aid for rheumatic children, studied the problem of heart diseases of school children in collaboration with Dr. Alberto P. Ruchelli. This is the first inclusive contribution

to this problem undertaken in Argentina. In one school district, 201 cases of acquired heart diseases were discovered among the 10,000 children (2.1 per cent). Of these cardiac lesions 50.24 per cent could be attributed to rheumatism. Epistaxis was observed in 25.42 per cent. Primary cardiac rheumatism occurred in 0.64 per cent. To the cases of acquired heart diseases must be added 0.39 per cent of congenital heart trouble. Accidental cardiac murmurs were found in 4.27 per cent of the cases. Children with accidental cardiac murmurs should be examined electrocardiographically. In 3.6 per thousand, the presence of an abnormal congenital communication between the ventricles of the heart was noted (Roger's disease). The authors emphasize the need of vocational guidance for children with cardiac disorders on graduation in order to prevent subsequent disaster. They cite the example set by the United States during the last twenty years.

Pulmonary Carcinoma

Dr. Julio Palacios and Egidio S. Mazzei, associate professors of the First Medical Clinic of the faculty of medicine of Buenos Aires, published a monograph on pulmonary carcinoma, sarcoma and lymphogranuloma, based on 120 cases. Some new forms are described, namely an osteoarthropathy (Pierre-Marie-Bamberger) characterized by hypertrophy: the pseudocardiac, in which the tumor simulates a cardiac lesion (angina pectoris, paroxysmal tachycardia or cardiac insufficiency) and the painful thoracicobronchial syndrome (paralysis brachialis inferior Dejerine-Klumpke and shadow at the apex of the thorax), significant for incipient carcinoma of the apex of the lung. In discussing atelectasis due to bronchial carcinoma the authors stress two signs: tracheal deviation on inspiration in the superior lobe during palpation of the fossa suprasternalis and roentgenologically an undue brightness appearing in the healthy lobe adjoining the atelectatic lobe.

Brief Mention

In Mendoza, capital of the Argentine province of the same name, a department of nutrition has been instituted. This is the only organization of its kind in Argentina outside the well known National Institute of Nutrition in Buenos Aires. It is to combat the extensive malnutrition found in the province as well as goiter conditions.

The third Chilean and American Congress for Surgery met, February 14-18, in Santiago de Chile. Representatives from Chile, Argentina, Peru, Paraguay and Uruguay attended. The themes discussed were head injuries, early diagnosis of carcinoma of the stomach and colon surgery.

Personal

Dr. Alberto Marsal was appointed professor of physiologic chemistry in the faculty of medicine of the University of Córdoba. Under a grant from the Guggenheim Foundation he studied at Harvard, Cornell and Rochester during 1937-1939.

Dr. Vicente Dimitri, who has been director of the neurologic division at the Hospital Alvear since 1917, was appointed professor of neurology at the faculty of medicine of the University of Buenos Aires. He is founder and editor of the *Revista neurológica de Buenos Aires*.

Marriages

CHARLES LEMUEL PRINCE III, Charlottesville, Va., to Miss Katherine Wachob Eaton of Pittsburgh, February 15.

WILLIAM FITZGERALD CAVEDO to Miss Edith Earline Mann, both of Richmond, Va., February 12.

WILLIAM STERRY BRANNING to DR. NANCY BOWMAN WISE, both of Durham, N. C., in February.

EUGENE BOWIE SHEPHERD to Miss Mary Walker Lewis, both of Richmond, Va., February 24.

Deaths

Willis Cohoon Campbell * Memphis, Tenn.; University of Virginia Department of Medicine, Charlottesville, 1904; chairman of the Section on Orthopedic Surgery of the American Medical Association, 1922-1923, and member of its House of Delegates in 1939; past president of the Memphis and Shelby County Medical Society, Clinical Orthopedic Society, South-eastern Surgical Congress, American Academy of Orthopedic Surgeons and the American Orthopedic Association; in 1937 secretary of the American delegation to the International Society of Orthopedic Surgery; member of the Southern Surgical Association and the American Association for the Surgery of Trauma; fellow and member of the board of governors from 1936 to 1939, of the American College of Surgeons; professor of orthopedic surgery, University of Tennessee College of Medicine; chief of staff, Willis C. Campbell Clinic, Crippled Children's Hospital School and Hospital for Crippled Adults; consultant in orthopedic surgery, Baptist Memorial and St. Joseph's hospitals and the United States Marine Hospital; attending orthopedic surgeon, Methodist Hospital; author of "Orthopedics of Childhood," "Injuries and Surgical Diseases of the Joints," "Dislocations of Joints," "Orthopedic Surgery," "Physical Therapy in Bone and Joint Tuberculosis"; aged 60; died, May 4, in St. Luke's Hospital, Chicago.

Frank Clinch Hammond * Philadelphia; Jefferson Medical College of Philadelphia, 1895; instructor of gynecology at his alma mater from 1896 to 1905; honorary dean and professor of gynecology at the Temple University School of Medicine; past president of the Philadelphia County Medical Society, Obstetrical Society of Philadelphia and the Philadelphia Clinical Association; fellow of the American College of Surgeons; in 1925 was appointed editor of the *Atlantic Medical Journal*, predecessor of the *Pennsylvania Medical Journal*, and served until 1941, when he became editor emeritus; in 1918 medical aide to the governor of Pennsylvania; aged 66; visiting obstetrician and gynecologist, Philadelphia General Hospital; visiting gynecologist, Philadelphia Hospital for Contagious Diseases; consulting obstetrician and gynecologist, Jewish Hospital; consulting gynecologist, Newcomb Hospital, Vineland, N. J., Delaware County Hospital, Drexel Hill, Skin and Cancer Hospital, Philadelphia, and the Riverview Hospital, Norristown, Pa.; gynecologist, Temple University Hospital, where he died, April 12.

Charles Waldo Stickle * Brooklyn; University of the City of New York Medical Department, 1893; adjunct clinical professor of otology from 1913 to 1916, clinical professor and professor from 1916 to 1920, clinical professor from 1920 to 1923 and from 1923 to 1930 professor at the Long Island College Hospital; in 1930, when the school became the Long Island College of Medicine, he was made professor of clinical otolaryngology, serving until 1937, when he became emeritus professor; chief of the eye clinic from 1913 to 1916, aural surgeon from 1916 to 1920, otolaryngologist from 1920 to 1924, attending otolaryngologist from 1924 to 1937 and consulting otolaryngologist since 1937, the Long Island College and Coney Island hospitals; attending otologist, Brooklyn Jewish Hospital from 1906 to 1925; attending laryngologist from 1910 to 1920, Methodist Hospital; aged 70; died, March 8, of cerebral thrombosis.

Stewart Ralph Roberts * Atlanta, Ga.; Atlanta College of Physicians and Surgeons, 1900; member of the House of Delegates of the American Medical Association from 1916 to 1920; professor of clinical medicine at the Emory University School of Medicine; fellow and formerly vice president and member of the board of regents of the American College of Physicians; member of the American Clinical and Climatological Association; past president of the Southern Medical Association, Fulton County Medical Society and the American Heart Association; formerly secretary of the Southern Interurban Clinical Society; at one time vice president of the Medical Association of Georgia; served during the World War; on the staffs of the Emory University, Georgia Baptist and the Grady hospitals; author of "Pellagra"; aged 62; died, April 14, of coronary occlusion and hypertension.

David A. Strickler * Denver; Hahnemann Medical College of Philadelphia, 1881; from 1914 to 1923 president of the Federation of State Medical Boards of the United States; member of the National Board of Medical Examiners from

1919 to 1932; member from Jan. 13, 1902 to July 5, 1911 and secretary-treasurer of the state board of medical examiners from July 5, 1911 to July 5, 1927; member of the American Academy of Ophthalmology and Otolaryngology; fellow of the American College of Surgeons; at one time dean and professor of ophthalmology at the Denver College of Physicians and Surgeons; formerly professor of ophthalmology and otolaryngology, University of Minnesota Medical School, Minneapolis; aged 82; died, March 29, in the Mercy Hospital of adenocarcinoma of the hepatic flexure of the colon.

Bryant Davis Wetherell, Boston; Harvard Medical School, Boston, 1918; professor of clinical urology at the Tufts College Medical School; member of the Massachusetts Medical Society; member of the American Urological Association and the New England Dermatological Society; fellow of the American College of Surgeons; associate urologist, Massachusetts General Hospital; genitourinary surgeon, St. Elizabeth's Hospital and Boston Dispensary, Boston, Cambridge (Mass.) Hospital and the Brooks Hospital, Brookline, Mass.; consulting urologist, Massachusetts Eye and Ear Infirmary, Boston, Anna Jaques Hospital, Newburyport, and the Amesbury (Mass.) Hospital; aged 52; died, March 5.

Ralph Hayward Simmons * Lieutenant Colonel, M. C., U. S. Army, Fort Adams, R. I.; Tufts College Medical School, Boston, 1913; member of the American Academy of Ophthalmology and Otolaryngology; fellow of the American College of Surgeons; member of the Massachusetts Medical Society; served during the World War; entered the medical corps of the United States Army as a captain in 1920, in 1929 was promoted to major and in 1937 to lieutenant colonel; aged 51; died, March 13, in the Walter Reed General Hospital, Washington, D. C., of arterial hypertension and cardiac decompensation.

Charles S. Young, Geneseo, Ill.; Detroit College of Medicine, 1896; member of the Illinois State Medical Society; past president of the Henry County Medical Society; past president of the Iowa-Illinois Central District Medical Association, 1918-1919; for many years president of the board of the Henry County Tuberculosis Sanatorium, Rock Island, and the J. C. Hammond City Hospital; health officer of Geneseo from 1912 to 1918; for many years a member of the high school board; local surgeon for the Rock Island Railway; aged 67; died, March 9, of chronic myocarditis.

Thomas Vincent Hynes, New Haven, Conn.; Yale University School of Medicine, New Haven, 1900; member of the Connecticut State Medical Society; fellow of the American College of Surgeons; assistant in obstetrics from 1901 to 1904 and instructor in clinical obstetrics from 1904 to 1918 at his alma mater; on the staff of the New Haven Hospital and St. Raphael Hospital; formerly chief obstetrician and past president of the medical staff of Grace Hospital; aged 67; died, March 31, of coronary thrombosis.

William C. Mitchell, Denver; University of Maryland School of Medicine, Baltimore, 1889; director of laboratories, state board of health; formerly bacteriologist, city board of health; professor of bacteriology at the University of Denver Medical Department, which later became the University of Colorado School of Medicine, where he was professor of bacteriology emeritus; aged 72; died, March 31, in the Mercy Hospital of coronary thrombosis.

Doran Jay Stephens * Rochester, N. Y.; University of Rochester School of Medicine and Dentistry, 1929; assistant professor of medicine at his alma mater; member of the American Society for Clinical Investigation; assistant in medicine, Washington University School of Medicine, and resident physician, Barnes Hospital, St. Louis, 1931-1932; on the staff of the Strong Memorial Hospital; aged 37; died, March 19, of pneumonia.

A. Merrill Miller * Danville, Ill.; Northwestern University Medical School, Chicago, 1901; past president of the Vermilion County Medical Society; fellow of the American College of Surgeons; aged 64; attending surgeon, St. Elizabeth's Hospital; consulting surgeon, Veterans Administration Facility; surgeon, Lakeview Hospital, where he died, March 19, of cerebral hemorrhage.

Loy McAfee, Washington, D. C.; Medical College of Indiana, Indianapolis, 1904; for many years employed as a contract surgeon in the medical service of the United States Army; assistant editor in chief of "The Medical Department of the United States Army in the World War"; aged 72; died, February 17, in the Walter Reed General Hospital of heart disease.

Peter Owen Shea ☉ Worcester, Mass.; College of Physicians and Surgeons, medical department of Columbia College, New York, 1895; veteran of the Spanish-American War; for many years city health officer; at one time a member of the school committee; formerly trustee of the Grafton State Hospital, North Grafton; aged 70; died, March 10, of chronic myocarditis.

Bruce Lichty, Meyersdale, Pa.; University of Pennsylvania Department of Medicine, Philadelphia, 1892; member of the Medical Society of the State of Pennsylvania; served during the World War; for many years member of the board of education and president of the board of health; aged 75; died, March 8, in the Hazel McGilvery Hospital of coronary occlusion.

Elizabeth Hall McCullough ☉ North Bennington, Vt.; Columbia University College of Physicians and Surgeons, New York, 1933; member of the New England Pediatric Society; on the staff of the Henry W. Putnam Memorial Hospital; attending physician, Bennington College Health Service from 1939 to 1941; aged 33; was killed, March 14, in an automobile accident.

Charles Gibson McGaffin, Brooklyn; Albany (N. Y.) Medical College, 1908; member of the American Psychiatric Association and the New England Society of Psychiatry; superintendent of the Coney Island Hospital; formerly superintendent of the New York Children's Hospital, New York; aged 58; died, March 26, of acute coronary occlusion.

Charles Lewis Gaulden ☉ Los Angeles; Tulane University of Louisiana School of Medicine, New Orleans, 1912; fellow of the American College of Surgeons; served during the World War; on the staffs of the Cedars of Lebanon and California hospitals; aged 53; died, March 3.

George B. McKnight, Fond du Lac, Wis.; Hahnemann Medical College and Hospital, Chicago, 1889; formerly health officer; for many years trustee of Sunny View Sanatorium, Winnebago; on the staff of the Fond du Lac County Insane Asylum; aged 77; died, March 5.

George Charles Dittmann, Chicago; College of Physicians and Surgeons, School of Medicine of the University of Illinois, 1902; member of the Illinois State Medical Society; aged 65; died, March 1, in the Swedish Covenant Hospital, of carcinoma of the stomach.

Morris A. Goodstone, Pittsburgh; Western Pennsylvania Medical College, Pittsburgh, 1892; at one time chief of the medical staff and for many years trustee of the Montefiore Hospital; aged 74; died, March 2, of embolus following cholecystoduodenostomy.

Benjamin Newton Novy, Chicago; College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1906; served during the World War; aged 58; died, March 5, in the Michael Reese Hospital of gastric ulcer with hemorrhage.

Robley Dungleison Snively ☉ Philadelphia; Medico-Chirurgical College of Philadelphia, 1895; on the staffs of the Abingdon (Pa.) Memorial Hospital, the Germantown Hospital and the National Stomach Hospital; aged 68; died, March 15, of heart disease.

John Tucker Halsell ☉ Laredo, Texas; Fort Worth School of Medicine, Medical Department of Fort Worth University, 1898; fellow of the American College of Surgeons; veteran of the Spanish-American and World wars; aged 66; died, March 16.

Joseph Hiram Laws ☉ Broken Arrow, Okla.; University of the South Medical Department, Seawee, Tenn., 1899; Vanderbilt University School of Medicine, Nashville, 1900; aged 66; died, February 7, in a hospital at Tulsa of carcinoma of the liver.

John P. Stewart ☉ Frankfort, Ky.; University of Louisville Medical Department, 1893; past president of the Franklin County Medical Society; aged 71; died, March 8, in the Norton Memorial Infirmary, Louisville, of cerebral arteriosclerosis and pneumonia.

James Clarence Cowan, New Haven, Ind.; American College of Medicine and Surgery, Chicago, 1905; member of the Indiana State Medical Association; for many years on the staff of the Lutheran Hospital, Fort Wayne; aged 63; died, March 15.

Henry H. Sugg, Mount Vernon, Ind.; American Medical College, St. Louis, 1890; formerly secretary of the board of health, and county health officer; aged 74; died, March 4, in the Welborn-Walker Hospital, Evansville, of intestinal obstruction.

Lee Everett Strong, Indianapolis; Indiana University School of Medicine, Indianapolis, 1910; member of the Indiana State Medical Association; aged 54; died, March 1, in the Methodist Hospital of hepatic insufficiency and paralytic ileus.

Thomas Lawson Stringer, Algonac, Mich.; University of Toronto Faculty of Medicine, Toronto, Ont., Canada, 1889; Victoria University Medical Department, Coburg, Ont., Canada, 1889; aged 81; died, March 10, of coronary thrombosis.

John S. Pearce, Portales, N. M.; Tulane University of Louisiana School of Medicine, New Orleans, 1895; aged 75; died, February 6, in the Memorial Hospital, Clovis, of septicemia due to ischiorectal abscess.

Harry Sherman Flynn ☉ Providence, R. I.; Harvard Medical School, Boston, 1893; aged 72; died, March 20, in the Rhode Island Hospital of fracture of the neck of the right femur and coronary occlusion.

Carl Niel Larsen, Broomfield, Colo.; Detroit College of Medicine and Surgery, 1915; served during the World War; instructor in physiology at his alma mater, 1916-1917; aged 51; died, February 13.

Thomas Francis Carroll, New York; Harvard Medical School, Boston, 1899; served during the World War; on the staff of the Veterans Administration Facility, Bronx, aged 67; died, February 7.

Israel Samuel Millstone, Gary, Ind.; Cleveland Homeopathic Medical College, 1900; at one time secretary of the board of health of Gary; aged 80; died, March 12, in the Mercy Hospital.

Nathan Barnet Jacobson, Long Beach, N. Y.; Jefferson Medical College of Philadelphia, 1913; aged 53; died, March 9, in Miami Beach, Fla., of chronic valvular disease and pulmonary infarction.

Edgar S. Ferris, New Castle, Ind.; Jefferson Medical College of Philadelphia, 1885; member of the Indiana State Medical Association; aged 76; died, March 17, of cerebral hemorrhage.

Martin Charles Gottschaldt, New York; University of the City of New York Medical Department, 1889; also a dentist; aged 81; died, February 25, of carcinoma of the sigmoid.

Bernard Edward Halligan, Oakland, Calif.; Creighton University School of Medicine, Omaha, 1931; on the staff of the Providence Hospital; aged 36; died, March 17, of Hodgkin's disease.

Frank E. Detrick, Quincy, Ohio; Medical College of Ohio, Cincinnati, 1906; member of the Ohio State Medical Association; aged 64; died, March 4, of epithelioma of the tongue.

Clarendon Atwood Foster, Los Angeles; Harvard Medical School, Boston, 1889; aged 77; died, March 13, in the Good Samaritan Hospital of coronary sclerosis and myocardial infarct.

Thomas Wickett, Hamilton, Ont., Canada; M.B., University of Toronto Faculty of Medicine, 1894; M.D., Trinity Medical College, Toronto, 1894; aged 77; died, January 12.

William H. Hannum, Paw Paw, W. Va.; University of the South Medical Department, Seawee, Tenn., 1898; aged 67; died, March 4, in the Memorial Hospital, Cumberland.

John Wilson Boggess Jr., Guntersville, Ala.; Emory University School of Medicine, Atlanta, 1929; member of the Medical Association of Georgia; aged 37; died, March 15.

James Knox Hall, Lyons, Ga.; Atlanta School of Medicine, 1908; member of the Medical Association of Georgia; aged 62; died, February 25, of angina pectoris and arteriosclerosis.

Mederic Le Moyne, Montreal, Que., Canada; Laval University Medical Faculty, Montreal, 1905; Laval University Faculty of Medicine, Quebec, 1906; died, February 27.

William A. Palmour, Gainesville, Ga.; Atlanta Medical College, 1886; member of the Medical Association of Georgia; for many years mayor; aged 76; died, February 4.

Frederick W. Lang, Marine City, Mich.; McGill University Faculty of Medicine, Montreal, Que., Canada, 1892; health officer; aged 75; died, March 20, of heart disease.

Horatio F. Chisholm, Cleveland; Chattanooga (Tenn.) Medical College, 1894; served during the World War; at one time British vice consul; aged 79; died, March 9.

Louise Krauss Ament, Siloam Springs, Ark. (licensed in Arkansas in 1908); formerly superintendent of the Lutheran Hospital, St. Louis; aged 66; died, February 11.

George Robert Seeber King ☉ Lake Butler, Fla.; College of Physicians and Surgeons, Baltimore, 1901; aged 63; died, February 28, in a hospital at Jacksonville.

Louis Blumenkranz, Chicago; Northwestern University Medical School, Chicago, 1910; aged 52; was killed, March 5, in an automobile accident near Ypsilanti, Mich.

Henry George G. Schmidt, Glendale, Calif.; Rush Medical College, Chicago, 1896; veteran of the Spanish-American and World wars; aged 68; died, February 10.

Darwin Marcel Short ☉ Owensville, Ind.; Western Reserve University School of Medicine, Cleveland, 1936; aged 36; died, February 7, of coronary thrombosis.

George John Ainley Thompson, London, Ont., Canada; Western University Faculty of Medicine, London, 1906; aged 79; died, February 16, in St. Petersburg, Fla.

Stillman B. Montique, Mount Clemens, Mich.; Hahnemann Medical College and Hospital, Chicago, 1895; aged 74; died, February 27, in St. Joseph's Hospital.

William M. Gamble, Centerville, Pa.; Western Pennsylvania Medical College, Pittsburgh, 1891; for many years deputy county coroner; aged 72; died, February 8.

William Woodhouse Scott, Hazelridge, Man., Canada; Manitoba Medical College, 1895; aged 78; died, March 20, of coronary thrombosis and chronic nephritis.

Walter S. Scully, Columbus, Ohio; Starling Medical College, Columbus, 1897; aged 69; died, March 2, in the Grant Hospital of cardiovascular renal disease.

John Wyatt Davis ☉ Lynchburg, Va. (licensed in Virginia in 1899); served during the World War; aged 65; died, February 28, of carcinoma of the lung.

George T. Brown, Atlanta, Ga.; Southern Medical College, Atlanta, 1892; served during the World War; aged 78; died, March 2, of strangulated hernia.

Lucien Smith, Chapin, Ill.; Rush Medical College, Chicago, 1899; served during the World War; aged 65; was found dead, March 12, of coronary occlusion.

John A. Innis, Grand Rapids, Mich.; Michigan College of Medicine and Surgery, Detroit, 1895; aged 71; died, March 17, of organic disease of the heart.

Charles Abram Shultes, Preston Hollow, N. Y.; Albany Medical College, 1898; aged 72; died, February 14, of angina pectoris and essential hypertension.

Samuel Henry Scruggs, Cloutierville, La.; University of Louisville (Ky.) Medical Department, 1888; aged 78; died, February 9, of coronary occlusion.

Louis Francis Lepage, Rimouski, Que., Canada; Laval University Faculty of Medicine, Quebec, 1885; aged 82; died in February of bronchopneumonia.

Thomas L. Phillips ☉ Oneida, Tenn.; Tennessee Medical College, Knoxville, 1908; veteran of the Spanish-American War; aged 61; died, February 11.

John Ransom Kight, Ennis, Texas; Gate City Medical College, Texarkana, Ark., 1904; Birmingham Medical College, 1909; aged 64; died, February 5.

Alexander Munro, Westmount, Que., Canada; McGill University Faculty of Medicine, Montreal, 1876; L.R.C.P., London, 1877; aged 97; died, February 12.

Wilbur Carl Tobey, Spring Valley, Ohio; Eclectic Medical Institute, Cincinnati, 1904; aged 59; died, February 21, of carbon monoxide gas poisoning.

Thomas Morrow McLenahan ☉ Pittsburgh; College of Physicians and Surgeons, Baltimore, 1893; aged 74; died, February 28, of coronary occlusion.

Arthur Lewis Sneed, Kansas City, Mo.; St. Louis College of Physicians and Surgeons, 1900; aged 68; died, February 25, of cardiac decompensation.

James N. Morrison, Benson, Ariz.; Hahnemann Medical College and Hospital, Chicago, 1885; aged 87; died, February 5, of carcinoma of the colon.

Jose Antonio Samaniego, Los Angeles; University of Pennsylvania Department of Medicine, Philadelphia, 1891; aged 72; died, February 25.

R. Frank Stovall ☉ Mimbres, N. M.; University of Louisville (Ky.) Medical Department, 1884; aged 76; died, February 20, of cerebral hemorrhage.

Frank Charles Lavers, New Ross, N. S., Canada; Queen's University Faculty of Medicine, Kingston, Ont., Canada, 1891; aged 75; died, January 16.

Joseph G. Dillon, Fargo, N. D.; Hahnemann Medical College and Hospital, Chicago, 1904; aged 64; died, March 17, of cerebral thrombosis.

Thomas Joseph Kearns, New York; Cornell University Medical College, New York, 1906; aged 59; died, March 19, of coronary thrombosis.

John Wesley Lee Brannon, Atlanta, Ga.; Atlanta Medical College, 1895; aged 67; died, March 15, of multiple sclerosis and myocardial fibrosis.

Sarah A. Davis Bean, Salem, Ore.; American Medical College, St. Louis, 1890; aged 74; died, March 10, of carcinoma of the bladder.

Thomas Francis Desmond, Webster City, Iowa; Rush Medical College, Chicago, 1895; aged 75; died, February 1, of cerebral hemorrhage.

Thomas Burgess, Trenton, Ill.; Rush Medical College, Chicago, 1893; aged 72; died, February 21, in the Deaconess Hospital, St. Louis.

Frederick P. Bellinger, Council Bluffs, Iowa; Albany (N. Y.) Medical College, 1880; aged 80; died, February 19, of bronchopneumonia.

Frederick Lohrstorfer, Port Huron, Mich.; University of Michigan Department of Medicine, Ann Arbor, 1886; aged 77; died, February 17.

Victor Bourgeault, Saskatoon, Sask., Canada; Victoria University Medical Department, Coburg, Ont., 1888; aged 77; died, February 15.

John Havelock Eastwood, Peterborough, Ont., Canada; University of Toronto Faculty of Medicine, 1887; aged 76; died, February 17.

Shea Edward Prince, Shreveport, La.; College of Physicians and Surgeons, Baltimore, 1896; bank president; aged 71; died, February 6.

John Owen McQueen, Summersville, W. Va.; Kentucky School of Medicine, Louisville, 1892; aged 68; died, February 14, of pneumonia.

Walter Ross Lane, Los Angeles; University of Toronto Faculty of Medicine, Toronto, Canada, 1918; aged 47; died, February 26.

Hector McLean Paterson, Rodney, Ont., Canada; University of Toronto Faculty of Medicine, 1895; aged 69; died, February 22.

Irvine John Leatherdale, Jarvis, Ont., Canada; Western University Faculty of Medicine, London, 1915; aged 51; died, February 11.

Joseph Franklin Bond, Wabasha, Minn.; Rush Medical College, Chicago, 1885; aged 78; died, March 27, of coronary thrombosis.

Joseph F. Beakley, Shannon, Texas; College of Physicians and Surgeons, Dallas, Texas, 1907; aged 69; died in February.

Samuel Hodgins Ralston, Pittsburgh; Western Pennsylvania Medical College, Pittsburgh, 1896; aged 72; died, February 13.

Charles Gardner Child Jr., New York; Yale University School of Medicine, New Haven, Conn., 1895; aged 67; died, March 4.

Anna Elizabeth Ellsworth, Wichita, Kan.; Kansas City (Mo.) Homeopathic Medical College, 1896; aged 74; died, February 14.

Harry Thomas O'Connor, Pittsburgh; Western Pennsylvania Medical College, Pittsburgh, 1905; aged 58; died, February 23.

Isaac F. Mallett, Kansas City, Kan. (licensed in Kansas in 1901); aged 84; died, February 23, of myocarditis and hypertension.

Nellie May Johnson, Tulsa, Okla.; Hahnemann Medical College and Hospital, Chicago, 1906; aged 63; died, February 18.

George C. E. Vogler, Frederick, Md.; Baltimore Medical College, 1894; aged 76; died, February 8, of coronary thrombosis.

Ladislav Victor Stranz, Whiting, Ind.; Dunham Medical College, Chicago, 1896; aged 72; was found dead in March.

John O. Scheel, Hamilton, Ohio; Medical College of Ohio, Cincinnati, 1891; aged 83; died, February 6.

Paul Guttman, Kellnersville, Wis.; Milwaukee Medical College, 1902; aged 79; died, February 17.

Correspondence

THE LIBRARY OF SIR D'ARCY POWER

To the Editor:—I find that it is no longer safe to keep my carefully selected medical library under one roof in London at the present time, as my house has been bombed more than once. I have decided, therefore, to sell it within the next few weeks at Messrs. Sotheby's Auction Rooms at 34 New Bond Street, London W/1.

The library includes many autographed copies from my friends in the United States, notably Sir William Osler and Dr. Harvey Cushing, as well as "The Wonderful One-Hoss Shay" given me by Dr. Oliver Wendell Holmes. There is a remarkable collection of the "Regimen Sanitatis Salerni," some sixty editions in English, French and German, dating from before the time of printing until 1915, when it was last printed at Liège during the siege to show the Germans that work was being carried on as before. The object of this collection was to indicate how successive editors had enlarged on it since Arnold de Villanova first dedicated a few hundred verses to the son of William the Conqueror. It consists of a collection of receipts dealing with dietetics and various details appertaining to health, many of which have passed into the folk lore of all European countries. It opens with the statement that Dr. Quiet and Dr. Diet are the best physicians. There is also a unique copy of Dr. Bayley's treatise on eyesight, dated 1595. This small volume he signed in full when he gave it to the Lord Chief Justice of King James I. Its authorship had previously been unknown. There is also a copy of the 1552 edition of the Woman's Book. In addition to these treasures there is a very complete collection of the writings of the great English surgeons from 1565 to the present day.

D'ARCY POWER, F.R.C.S.,
53 Murray Road, Northwood,
Middlesex, England.

MEDICAL JARGON

To the Editor:—I was pleased to note that others besides myself take occasion to point out the extent to which medical jargon is used. Both Dr. Spillman (THE JOURNAL, January 18, p. 247) and Dr. Royster (ibid., March 8, p. 1022) object to confusing abbreviations and contractions, meaningless diction, misuse of words, colloquialism and errors in grammar and rhetoric in medical speech and literature. In the past, McCrae (The Use of Words, THE JOURNAL, July 10, 1915, p. 135), W. W. Keen, Thayer and others did the same.

From time to time I attempt to correct the language of students, but the blame should properly be placed on their instructors, including myself, who themselves are often careless in their speech and writing. I have gathered some of the most glaring abuses and have assembled them in an imaginary medical report as follows. It contains more than seventy-five errors or offenses. I have even included a split infinitive. I had first planned to emphasize the errors in italics, but nearly the whole composition would then have been italicized. To convey the meaning in some places phonetic spelling was needed; abbreviations are translated in the glossary.

So accustomed have physicians become to current lingo that several who read the following essay failed to note much wrong with it other than the misspelling and the absurd medical sequence.

The case was doubtful and looked pretty much like stomach flu or Coke's infection. His white cells weren't high, the polys were o.k. and the lymph glands weren't markedly enlarged. The past history was irrelevant. I did a urine on him but he only had 3 pus cells and no acid-fast organ-

isms. The S.U.S. showed green strep and a few staph. The P.S.P., the B.U.N. and an E.K.G. were negative. The case didn't run a temperature and the blood chemistry was low. He was hospitalized and the G.U. service did a flat plate and a K.U.B. He wasn't cystoscoped and they didn't take a biopsy. The serology was negative. He wasn't luetic or a neuro. There was no question of C.P.C. or aortic regurg. A rectal and a basal rate was done on him. A C.B.C. was done for the C.P.C. None of the findings were helpful. I contacted the surgical staff but the Prof. wouldn't operate the case, because he couldn't locate the pathology. He ordered him prepped for a G.I. series but there were no X-ray changes. He put a Waggonstein down. You don't have an acute abdomen with yer white count normal, and you run a temperature and yer pulse is high. The case was clinicked.

The individual picked up an upper respiratory infection and a strep throat. It went to his left chest and his temp shot up, but I couldn't find any bugs except higher type pneumos and cock-eye of the mouth group in his sputum. He was Schicked and Dicked. I didn't want him to suddenly die on me, so I sedated him with M.S., forced fluids, put him on intravenous glucose, took him off iodides and got ready to transfuse him in case he hemorrhaged from the tissue infection.

Glossary: Coke's infection—tuberculosis.
S.U.S.—stained urinary sediment.
P.S.P.—phenolsulfonphthalein test.
B.U.N.—blood urea nitrogen.
K.U.B.—roentgenogram of the kidney, ureter, bladder.
C.P.C.—chronic passive congestion.
C.B.C.—complete blood count.
C.P.C.—clinical-pathologic conference.
M.S.—morphine sulfate.
Prepped—prepared.
Cock-eye—cocci.
Waggonstein—Wangensteen suction apparatus.

HOBART A. REIMANN, M.D., Philadelphia.

TREATMENT OF DELAYED MENSTRUATION WITH PROSTIGMINE METHYLSULFATE

To the Editor:—To the already published reports and correspondence on the treatment of delayed menstruation with prostigmine methylsulfate we wish to add our experience.

First, a brief comment regarding the communication of Dr. Alexander Winter in THE JOURNAL, Dec. 14, 1940: Although he states that he found four types of reactions, it seems to us that 3 of his patients confirmed the work of Soskin, Wachtel and Hechter, since 1 responded with a flow in forty-eight hours and 2 of those which did not so respond were pregnant. His case 4, which showed a negative Friedman reaction at the time although the patient was pregnant, is only a further confirmation.

Results with Prostigmine Methylsulfate

Patient	Age	Parity	Days Late	Prostigmine Methylsulfate	Response	Pregnant
1. J. G.	25	0	3	1/1 cc.	Positive in 16 hours	No
2. H. B.	21	1	16	1/1 cc. 2/2 cc.	Positive in 48 hours	No
3. D. B.	16	0	8	2/2 cc.	Positive in 24 hours	No
4. A. O.	25	1	8	3/1 cc.	Negative	Yes
5. (a) R. M.	24	0	8	1/1 cc.	Positive in 16 hours	No
5. (b) R. M.	24	0	9	3/1 cc.	Negative	Yes
6. M. S.	30	1	8	3/2 cc.	Negative	Probably

It will be noted that we are reporting results on 6 patients, 1 patient having been seen twice. Four responded by menstruating within forty-eight hours of the last dose, 2 having had one dose each, 1 two doses and 1 three doses. Of the 3 who did not respond, 2 are definitely pregnant clinically, and the third is in all likelihood also pregnant, although we have unfortunately lost sight of her and cannot confirm this impression. When patient 5 was not pregnant her response was

rapid. A few months later pregnancy ensued and the prostigmine did not affect her. We noted no untoward reactions to the drug and in this small group of patients, found it a very satisfactory early test for pregnancy.

MINDEL CHERNIACK, M.D.
CECIL G. SHEPS, M.D.
Winnipeg, Canada.

ZINC AND TISSUE ENZYMES

To the Editor:—In an editorial on "Zinc and Tissue Enzymes," April 19, THE JOURNAL stated that "the demonstration of the presence of zinc in the molecule is of special interest, not only because of the importance of this enzyme in the dynamics of carbon dioxide transport by the blood, but also because this is the first instance of the existence of a biologic compound containing zinc which is important to higher mammals."

Insulin was first obtained in crystalline form by Abel and his co-workers in 1926 from highly purified amorphous preparations. It has since been shown that this hormone is a protein and on hydrolysis yields amino acids, among which are tyrosine, cystine, glutamic acid, leucine, arginine, histidine, lysine, proline and phenylalanine.

Zinc has been found in the pancreas as well as in all commercial preparations of insulin examined by Scott and Fisher.

Scott and Fisher state: "The relation between zinc and insulin in the pancreas should not be overlooked. It might be pointed out that the hormone obviously exists in the pancreas in an inactive state, either as a precursor of insulin or in a combined form. It has been shown in previous communications that zinc is very closely associated with the chemistry of insulin in that the crystallization of insulin is readily effected by this substance. Furthermore, the pancreas is a comparatively rich source of zinc and contains many times the quantity of metal necessary for the crystallization of the insulin available in the gland. In the present communication it has been shown that the addition of this metal to insulin solutions materially affects the rate of action of the insulin. Because of these various facts it is not inconceivable that zinc may be one factor in the control of insulin liberation and its activity in the body."

The manner in which zinc is linked to insulin is not at present clearly understood. Sahyun, however, is of the opinion that at least two types of linkage may exist:

- (1) As a single salt $R(COO)_2Zn$
- (2) As a double salt $R-COO-Zn(X)$

Sahyun states that theoretically the amount of zinc that is assumed to be bound to the insulin molecule is about 0.2 mg. per thousand units.

ZOLTON T. WIRTSCHAFTER, M.D., Cleveland.

IS GLOBIN A HISTONE?

To the Editor:—In recent literature globin insulin has been erroneously referred to as a histone insulin. While there is some similarity between globin and the histones, the differences are so obvious that it is necessary to distinguish between them. For example, the average content of arginine and histidine in eight histones was 24.8 and 4.1 per cent respectively, whereas in globin it is 10.3 and 17.1 per cent (Kossel, Albrecht: The Protamines and the Histones, New York, Longmans, Green & Co., 1928). The histones yield so-called histopeptone when digested with gastric juice, which is not the case with globin. Also histones are toxic, whereas globin is nontoxic. The work by Anson and Mirsky (*J. Gen. Physiol.* 13:469 [March] 1930) has renewed interest in the globins, and more recently Haurowitz and Waelsch (quoted by Kroner, W., in Abderhalden, Emil: *Biochemisches Handlexikon*, Berlin, Julius

Springer, 1933, p. 234), Roche *Essai sur la biochimie générale et comparée des pigments respiratoires*, Paris, Masson & Cie, 1936), Hill and Holden (quoted by Kroner), Strauss and Collier (in Oppenheimer, C.: *Handbuch der Biochemie des Menschen und der Tiere*, ed. 2, Jena, Germany, Gustav Fischer, 1924, vol. 1, p. 668) and others have further extended Kossel's work, mostly from the physicochemical point of view. They found that globin is not a basic but a neutral protein, more similar to the albumins than to the histones, and that correspondingly native globin does not precipitate at its isoelectric point (pH 6.8), as opposed to the histones, which are basic, e. g. thymus histone has an isoelectric point of 8.5.

LOUIS BAUMAN, M.D., New York.

THE GASTROINTESTINAL EXAMINATION

To the Editor:—Dr. Ramsay Spillman's communication published in THE JOURNAL April 19 directs attention to certain fundamental difficulties such as the tendency to consider the roentgenologist as a technician rather than as a consultant.

The matter of medical costs is, of course, another fundamental question. It would seem that the cost of poor results following improper and insufficient treatment based on incorrect or incomplete diagnosis may be found to exceed the cost of better results following proper and sufficient treatment based on more correct and complete diagnosis.

"A proper examination of the complete tract" and of the entire patient will improve results and, by so doing, reduce costs.

GREGORY CONNELL, M.D., Oshkosh, Wis.

Medical Examinations and Licensure

COMING EXAMINATIONS

BOARDS OF MEDICAL EXAMINERS

BOARDS OF EXAMINERS IN THE BASIC SCIENCES

Examinations of boards of medical examiners and boards of examiners in the basic sciences were published in THE JOURNAL, May 10, page 2214.

NATIONAL BOARD OF MEDICAL EXAMINERS

NATIONAL BOARD OF MEDICAL EXAMINERS: Parts I and II. Various centers, June 23-25. Part III. Various centers, June or July. Exec. Sec., Mr. Everett S. Elwood, 225 S. 15th St., Philadelphia.

EXAMINING BOARDS IN SPECIALTIES

AMERICAN BOARD OF ANESTHESIOLOGY: *Written*. Part I. Various centers, Nov. 1. Final date for filing application is Aug. 4. Sec., Dr. Paul M. Wood, 745 Fifth Ave., New York City.

AMERICAN BOARD OF DERMATOLOGY AND SYPHILOLOGY: *Written*. Nov. 3. Final date for filing application is Sept. 23. *Oral*. Dec. 12-13. Final date for filing application is Nov. 8. Sec., Dr. C. Guy Lane, 416 Marlboro St., Boston.

AMERICAN BOARD OF INTERNAL MEDICINE: *Oral*. June, in advance of the meeting of the American Medical Association. *Written*. Oct. 20. Final date for filing application is Sept. 1. Sec., Dr. William S. Middleton, 1301 University Ave., Madison, Wis.

AMERICAN BOARD OF NEUROLOGICAL SURGERY: *Oral*. Philadelphia, June 6-7. Sec., Dr. R. Glen Spurling, 404 Brown Bldg., Louisville, Ky.

AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY: *Written*. Part I. Group B. Jan 3. *Oral*. Part II. Groups A and B. Atlantic City, May or June. Final date for filing application is 90 days in advance of the examination. Sec., Dr. Paul Titus, 1015 Highland Bldg., Pittsburgh.

AMERICAN BOARD OF OPHTHALMOLOGY: *Oral*. New York, June 2; Portland, July 15; Chicago, Oct. 18. *Written*. March 7, 1942. Sec., Dr. John Green, 6830 Waterman Ave. St. Louis.

AMERICAN BOARD OF ORTHOPAEDIC SURGERY: Washington, January. Final date for filing application is Nov. 1. Sec., Dr. Guy A. Caldwell, 1640 State St., New Orleans, La.

AMERICAN BOARD OF OTOLARYNGOLOGY: Chicago, Oct. 16-18. Final date for filing application is July 1. Sec., Dr. W. P. Wherry, 1509 Medical Arts Bldg., Omaha.

AMERICAN BOARD OF PEDIATRICS: *Oral*. Chicago, May 18, following the Region III meeting of the American Academy of Pediatrics. Boston, Oct. 7-8, immediately following the annual meeting of the American Academy of Pediatrics. *Written*. Locally, Aug. 22. Sec., Dr. C. A. Aldrich, 707 Fullerton Ave., Chicago.

AMERICAN BOARD OF RADIOLOGY: *Oral*. All groups. Cincinnati, Sept. 19-21. Final date for filing application is Aug. 1. Sec., Dr. Byrl R. Kirklint, 102-110 Second Ave., S. W., Rochester, Minn.

AMERICAN BOARD OF SURGERY: Part II. Philadelphia, May 28. Sec., Dr. J. Stewart Rodman, 225 S. Fifteenth St., Philadelphia.

AMERICAN BOARD OF UROLOGY: Chicago, February. Final date for filing application is three months before date of examination. Sec., Dr. Gilbert J. Thomas, 1009 Nicollet Ave., Minneapolis.

Bureau of Legal Medicine and Legislation

MEDICOLEGAL ABSTRACTS

Paternity: Right of Federal Courts to Require Blood Grouping Tests.—A child was born to the plaintiff during the pendency of her suit for maintenance against her husband, the defendant. The defendant, however, denied paternity, charged the plaintiff with adultery and brought a counterclaim for a divorce. Thereafter he asked the United States district court for the District of Columbia to order both parties to the marriage and the child to submit to blood grouping tests. The court granted the order requested and the plaintiff appealed to the United States Court of Appeals for the District of Columbia.

There was no question raised as to the admissibility in evidence of the results of the blood grouping tests as such. The value of such tests, said the Court of Appeals, as proof of nonpaternity is well known. The court relied on the Report of the Committee on Medicolegal Blood Grouping Tests of the American Medical Association (J. A. M. A. 108:2138 [June 19] 1937) to show that such tests, although they cannot prove paternity and cannot always disprove it, can conclusively disprove paternity in a great many cases provided the tests are performed by specially qualified experts. The theory of blood grouping tests is that when the bloods of mother and child belong to certain groups there are certain groups to which the father's blood cannot belong. If the putative father's blood is in such a group he is excluded, that is, he is not the actual father. The committee recommended that where necessary, laws should be passed which would authorize courts to order blood grouping tests in cases of disputed paternity and to receive the results thereof in evidence when they exclude the putative father. Such laws, continued the court, have been enacted in several states, and the use of such tests to disprove paternity, with or without a statute expressly so authorizing, has been approved in a number of court decisions.

Formerly, said the court, federal courts could not subject plaintiffs to a physical examination except in cases arising in states in which such examinations were authorized by statute. This rule of law was changed, however, when rule 35 (a) of the Rules of Civil Procedure for the United States district courts was adopted, which provides:

In an action in which the mental or physical condition of a party is in controversy, the court in which the action is pending may order him to submit to a physical or mental examination by a physician.

The court could not agree with the plaintiff's contention that this rule was unauthorized because it modified the "substantive rights" of the litigants. The rule relates exclusively to the obtaining of evidence and is therefore procedural rather than substantive. Also, the plaintiff's suggestion that the rule should be interpreted as limited in its application to actions for personal injuries did not meet with the court's approval, because such a possibility of limiting the rule must have been considered and rejected by the committee which prepared it. The language used in the rule is unlimited and so the effect of the rule should not be limited to actions of one class.

Furthermore, the court was unable to agree with the plaintiff's further contention that the "physical condition of a party" was not in controversy. According to the Century Dictionary the term "condition" includes or is synonymous with "characteristic." Clearly the characteristics of a person's blood which are expressed in terms of red and white corpuscles, or of hemoglobin, are a part of his "physical condition." In the judgment of the court, characteristics which are expressed in terms of blood groupings are likewise part of a person's "physical condition." The fact that blood grouping remains the same throughout life differentiates it from some aspects of "physical condition" but not from all. The court was also of the opinion that both the plaintiff and the child, as well as the defendant, were parties to the suit within the meaning of rule 35 (a). There are many instances in which a real party in interest is not named as a party in the title of a lawsuit. In the present case the suit for maintenance was

as much for the infant's benefit as for the mother's. In fact, said the court, socially the infant is the most important party. If the infant is the offspring of the defendant, the tests will prove nothing and harm no one; if the defendant is not the father of the infant, then it would be unjust to prevent him from proving that fact by scientific tests. The court concluded that rule 35 (a) was applicable to the present case and that the district court had properly ordered the parties to the marriage and the child to submit to blood grouping tests. Judgment of the district court was therefore affirmed. —*Beach v. Beach*, 114 F. (2d) 479 (1940).

Evidence: Admissibility and Effect of Blood Grouping Tests for Determination of Nonpaternity.—The plaintiff and the defendant were married sometime prior to April 21, 1939, on which date the plaintiff, the wife, filed a petition to require her husband, the defendant, to contribute to her support. At that time she was pregnant, and in September she gave birth to a child. In January 1940 she petitioned the domestic relations court of the city of New York, family court division, Queens County, for an increase of the weekly allowance, which the defendant was paying to her, so that it would include support for the infant. At the hearing on this petition, three months after the birth of the child, the defendant for the first time charged that the plaintiff had had intercourse with another man prior to the marriage and requested a blood test to determine the child's paternity. Subsequently two blood grouping tests were made on samples of blood taken from the plaintiff, the defendant and the infant. At a later hearing on this petition before the domestic relations court, in May 1940, both parties admitted that they had had sexual relations with each other prior to their marriage and that they were married after the plaintiff had told the defendant that she was pregnant by him. The plaintiff, however, denied that she had had relations with any one else and no evidence was produced to contradict that statement. The medical expert who had made the blood grouping tests was permitted to introduce in evidence the results of these tests and to testify that it was highly improbable that the defendant was the father of the infant. The domestic relations court was therefore called on to pass on the admissibility of such testimony.

The medical expert, said the court, admittedly was an authority on the subject of blood grouping. He testified that there are two laws of heredity and two separate blood grouping tests for the determination of nonpaternity based on such laws, the M and N (Landsteiner-Levine) test and the A and B (Bernstein) test. He stated that nonconformity to the first law is considered absolute proof of nonpaternity, while nonconformity to the second law "should perhaps only be considered strong evidence that paternity is very unlikely." He testified that he had performed both tests in this case with the following results: wife—O or MN; husband—AB or N, and infant—O or N. He expressed his opinion that the results of the M and N test did not exclude the defendant as the father of the child but that the results of the A and B test showed that it was highly improbable that the defendant was the infant's father because, according to Bernstein's theory, "a parent of group AB, irrespective of the blood of the other parent, cannot have a child of group O."

The presumption of the legitimacy of a child born during wedlock, said the court, is one of the strongest and most persuasive known to the law and may be overcome only by clear and convincing evidence. Legitimacy is presumed even though the wife is proved to have at times been guilty of infidelity. The court could not agree with the defendant's contention that it should disregard all the affirmative and uncontradictory evidence and consider only the negative evidence of the results of the blood grouping tests because statutes made it mandatory to accept the results of the blood grouping tests, not simply as evidence in the case but as evidence conclusively establishing the fact of nonpaternity. Section 126-a of the Domestic Relations Law provides:

Blood grouping tests. The court, on motion of the defendant, shall order the mother, her child and the defendant to submit to one or more blood grouping tests by a duly qualified physician to determine whether or not the defendant can be excluded as being the father of the child, and the results of such tests may be received in evidence but only in cases where definite exclusion is established.

Section 306-a of the Civil Practice Act contains substantially the same provisions and also provides that "the results of such tests may be received in evidence but only in cases where definite exclusion is established." By clear implication, said the court, the effect of this language is to substitute the medical expert for the court as the determiner of the fact of exclusion of paternity and to declare that the results of the blood grouping test shall be accepted as the fact of exclusion, because according to this language "the exclusion as to paternity is already determined before the facts establishing the exclusion are submitted in evidence." Fingerprints and photographs, continued the court, which do not require involved processes, are not even admitted as conclusive evidence. Why then should blood grouping tests be so admitted when they are based on complicated chemical processes and experimentation, made outside the court room, which involve questions of elemental and complex genetic and biologic processes and are dependent on the proper professional skill of the person carrying out the test, the careful storage and preservation of agents and reagents, the continuous retention of potencies and undiminished attraction of the substances, the vigor or power of resistance of blood serums and blood corpuscles to these chemical properties and many other elements, circumstances and conditions. While the courts are ever receptive to new facts discovered in the constant march of science and discovery, this commendable and sympathetic attitude must always be governed with a prudent and watchful guardianship to assure equal protection to all evidence from whatever source, each standing on the level plane and granite foundation of credibility, certainty and fact. Indeed, it may be seriously questioned whether the "results" of any extended medical experimentation warrant a statutory certification of the efficiency of the chemicals used and of the infallibility of their chemical reaction, or justify a statutory guarantee of the character and skill of the experimenter. In the opinion of the court the results of blood grouping tests, by reason of their involved experimentation, and expert testimony based thereon are entitled to no more credibility than any other evidence. The court suggested that the law should be amended so as to authorize the domestic relations court in its discretion to order the making of a blood grouping test but that as a prerequisite to the issuance of such an order there must be preliminary proof of nonpaternity. Also, the court believed that section 306-a of the Civil Practice Act should be clarified and amended so as to eliminate the implication of certainty of the results of blood grouping tests as to exclusion, if, indeed, the obvious uncertainties of these experimentations at their present stage warrant for them any enhanced place among the rules of evidence. The court concluded, therefore, that the negative expert testimony as to the results of the blood grouping tests "establishing nonpaternity" was insufficient to overcome the affirmative evidence in the case which conclusively established that the defendant was the father of the infant. Accordingly, the court ordered the defendant to pay an increased weekly allowance for support of the infant.—*Harding v. Harding*, 22 N. Y. S. (2d) 810 (New York, 1940).

Liability of Defendant in Personal Injury Claim for Unauthorized Physical Examinations of Plaintiff.—While the plaintiff was confined to her bed because of injuries resulting from a fall in the defendant store, the defendant's physician entered her room on three separate occasions and made physical examinations of her without her consent. The plaintiff subsequently sued the defendant store and its insurance carrier for trespass because of such unauthorized physical examinations and obtained a judgment in her favor. On appeal by the defendants to the court of appeals of Georgia, division 2, the court held that the judgment for the plaintiff was proper because a defendant in a personal injury claim has no absolute right to have a physical examination made of the claimant. The court concluded that the defendants, by forcing such physical examinations on the plaintiff, committed a trespass on the plaintiff for which they were liable. Judgment for the plaintiff was therefore affirmed.—*S. H. Kruss & Co. v. Crouch et al.*; *Liberty Mut. Ins. Co. v. Same*, 5 S. E. (2d) 709 (Ga., 1939).

Society Proceedings

COMING MEETINGS

- American Medical Association, Cleveland, June 2-6. Dr. Olin West, 535 North Dearborn St., Chicago, Secretary.
- American Association for the Study of Allergy, Cleveland, June 2-3. Dr. J. Harvey Black, 1405 Medical Arts Bldg., Dallas, Tex., Secretary.
- American Association for the Surgery of Trauma, Montreal and Montebello, Canada, May 29-31. Dr. Ralph G. Carothers, 409 Broadway, Cincinnati, Secretary.
- American Association for Thoracic Surgery, Toronto, Canada, June 9-11. Dr. Richard H. Meade Jr., 2116 Pine St., Philadelphia, Secretary.
- American Association of Genito-Urinary Surgeons, Hot Springs, Va., May 29-31. Dr. Charles C. Higgins, 2020 East 93d St., Cleveland, Secretary.
- American Association of Medical Milk Commissions, Cleveland, June 1-2. Dr. Paul B. Cassidy, 2037 Pine St., Philadelphia, Secretary.
- American Association on Mental Deficiency, Salt Lake City, June 20-24. Dr. E. Arthur Whitney, Washington Road, Elwyn, Pa., Secretary.
- American Broncho-Esophagological Association, Cleveland, June 3. Dr. Paul H. Holinger, 1150 North State St., Chicago, Secretary.
- American College of Chest Physicians, Cleveland, May 31-June 2. Dr. Paul H. Holinger, 500 North Dearborn St., Chicago, Secretary.
- American Gynecological Society, Colorado Springs, May 26-28. Dr. Richard W. TeLinde, Johns Hopkins Hospital, Baltimore, Secretary.
- American Heart Association, Cleveland, May 30-31. Dr. Howard B. Sprague, 50 West 50th Street, New York, Secretary.
- American Laryngological Association, Atlantic City, May 28-30. Dr. Charles J. Imperatori, 108 East 38th St., New York, Secretary.
- American Laryngological, Rhinological and Otolological Society, Los Angeles, June 16-18. Dr. C. Stewart Nash, 277 Alexander St., Rochester, N. Y., Secretary.
- American Medical Women's Association, Cleveland, June 1-2. Dr. Etta Gray, 649 South Olive St., Los Angeles, Secretary.
- American Neurological Association, Atlantic City, N. J., June 9-11. Dr. Henry A. Riley, 117 East 72d St., New York, Secretary.
- American Ophthalmological Society, Hot Springs, Va., May 29-June 1. Dr. Eugene M. Blake, 303 Whitney Ave., New Haven, Conn., Secretary.
- American Orthopedic Association, Toronto, Canada, June 9-12. Dr. Charles W. Peabody, 474 Fisher Bldg., Detroit, Secretary.
- American Otolological Society, Atlantic City, N. J., May 26-28. Dr. Isidore Friesner, 36 East 73d St., New York, Secretary.
- American Pediatric Society, Hot Springs, Va., May 22-24. Dr. Hugh McCulloch, 325 North Euclid Ave., St. Louis, Secretary.
- American Proctologic Society, Cleveland, June 1-3. Dr. William H. Daniel, 1930 Wilshire Blvd., Los Angeles, Secretary.
- American Radium Society, Cleveland, June 2-3. Dr. William E. Costolow, 1407 South Hope St., Los Angeles, Secretary.
- American Rheumatism Association, Cleveland, June 2. Dr. A. R. Shands, Dupont Institute, Wilmington, Del., Secretary.
- American Society of Clinical Pathologists, Cleveland, May 30-June 1. Dr. A. S. Giordano, 531 North Main St., South Bend, Ind., Secretary.
- American Therapeutic Society, Cleveland, May 30-31. Dr. Oscar B. Hunter, 1835 Eye St. N.W., Washington, D. C., Secretary.
- American Urological Association, Colorado Springs, Colo., May 19-22. Dr. Clyde L. Deming, 789 Howard Ave., New Haven, Conn., Secretary.
- Association for Research in Ophthalmology, Cleveland, June 3. Dr. Conrad Berens, 35 East 70th Street, New York, Secretary.
- Connecticut State Medical Society, Bridgeport, May 21-22. Dr. Creighton Barker, 258 Church St., New Haven, Secretary.
- Idaho State Medical Association, Sun Valley, June 18-21. Dr. F. B. Jeppesen, 105 North 8th St., Boise, Secretary.
- Illinois State Medical Society, Chicago, May 20-22. Dr. Harold M. Camp, 224 South Main St., Monmouth, Secretary.
- Maine Medical Association, York Harbor, June 22-24. Dr. Frederick R. Carter, 22 Arsenal St., Portland, Secretary.
- Massachusetts Medical Society, Boston, May 21-22. Dr. Robert N. Nye, 8 Fenway, Boston, Secretary.
- Medical Library Association, Ann Arbor, Mich., May 29-31. Miss Anna C. Holt, 25 Shattuck St., Boston, Secretary.
- Minnesota State Medical Association, St. Paul, May 26-28. Dr. B. B. Souster, 493 Lowry Medical Arts Bldg., St. Paul, Secretary.
- Montana Medical Association of, Great Falls, June 24-26. Dr. Thomas F. Walker, 206 Medical Arts Bldg., Great Falls, Secretary.
- New Jersey Medical Society of, Atlantic City, May 20-22. Dr. Alfred Stahl, 55 Lincoln Park, Newark, Secretary.
- New York State Association of Public Health Laboratories, Syracuse, May 19. Miss Mary B. Kirkbride, New Scotland Ave., Albany, Secretary.
- North Carolina Medical Society of the State of, Pinehurst, May 19-21. Dr. I. H. Manning, Chapel Hill, Secretary.
- North Dakota State Medical Association, Grand Forks, May 19-21. Dr. L. W. Larson, 221 Fifth St., Bismarck, Secretary.
- Ohio State Medical Association, Cleveland, June 3. Mr. C. S. Nelson, 79 East State St., Columbus, Executive Secretary.
- Oklahoma State Medical Association, Oklahoma City, May 19-22. Dr. L. S. Willour, 210 Plaza Court Bldg., Oklahoma City, Secretary.
- Pacific Coast Oto-Ophthalmological Society, Los Angeles, May 26-29. Dr. C. Allen Dickey, 450 Sutter Street, San Francisco, Secretary.
- Pacific Northwest Medical Association, Spokane, Wash., June 25-28. Dr. C. W. Countryman, 407 Riverside Ave., Spokane, Wash., Secretary.
- Rhode Island Medical Society, Providence, May 28-29. Dr. Guy W. Wells, 124 Waterman St., Providence, Secretary.
- Society of Surgeons of New Jersey, Plainfield, May 28. Dr. Walter B. Mount, 21 Plymouth St., Montclair, Secretary.
- South Dakota State Medical Association, Mitchell, May 18-20. Dr. Clarence E. Sherwood, 107½ Egan Ave., Madison, Secretary.
- Utah State Medical Association, Salt Lake City, June 12-14. Dr. D. G. Edmunds, 610 McIntyre Bldg., Salt Lake City, Secretary.

Current Medical Literature

AMERICAN

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Titles marked with an asterisk (*) are abstracted below.

American J. Digestive Diseases, Huntington, Ind.

8:35-64 (Feb.) 1941

- Intestinal Obstruction: Results of Treatment with Use of Intestinal Intubation. P. M. Glenn, Cleveland.—p. 35.
- *Treatment of Massive Gastroduodenal Hemorrhage by Continuous Administration of Colloidal Aluminum Hydroxide (Report of 144 Cases). E. E. Woldman, Cleveland.—p. 39.
- Effect of Orange Juice on Gastric Acidity. F. W. Claytor, W. L. Smith and E. L. Turner, Nashville, Tenn.—p. 43.
- Method for Continuous Recording of Gastric pH in Situ: III. Evaluation of Efficacy of Certain Antacids. J. Flexner, New York, and M. Kniazuk, Rahway, N. J.—p. 45.
- Comparison of Inhibitory Action of Different Fats and Fatty Acids Introduced into the Duodenum on Gastric Contractions. W. I. Card, London, England.—p. 47.
- Further Study of Effect of Various Antacids on Hydrogen Ion Concentration of Gastric Contents. J. B. Kirsner, Chicago.—p. 53.
- *Magnesium Trisilicate N. N. R.: Its Position Among Antacids Used to Treat Peptic Ulcer. M. Kraemer, Newark, N. J.—p. 56.
- A One Flask Apparatus for Aluminum Hydroxide Drip Treatment of Peptic Ulcer. E. E. Woldman and V. C. Rowland, Cleveland.—p. 59.
- Observations and Moving Picture Studies of Motility of Human Small Intestine. W. B. Youmans, H. F. Haney, H. P. Rush and W. Zavin, Portland, Ore.—p. 60.

Colloidal Aluminum Hydroxide for Gastroduodenal Hemorrhage.—During four years Woldman treated 144 patients with massive gastroduodenal hemorrhage by the continuous administration of colloidal aluminum hydroxide. Patients with blood streaked or occasional "coffee ground" vomitus, occult blood in the stools or rare tarry stools are not considered. There were 3 deaths among the series, or a mortality rate of 2 per cent as contrasted with 28 per cent during a similar period at the same hospital preceding continuous administration of colloidal aluminum hydroxide. The method presents certain advantages over other methods of treatment: 1. It is a harmless, nonabsorbable astringent which is capable of hastening clot formation. 2. By virtue of its antacid properties it can prevent the digestion of the clot by continuously neutralizing the excess acid in the stomach, without danger of alkalosis. 3. Because it is a gelatinous substance, it has the additional advantage of mechanically protecting the lesion. 4. As a result of its continuous administration the delicate granulation tissue formed in the process of healing is not destroyed by the accumulation of acid during the night, and thus healing is permitted. The treatment arrests the bleeding and protects the ulcer by facilitating its healing.

Magnesium Trisilicate.—Kraemer compares the neutralizing powers of various antacids used in treating peptic ulcer and discusses the disadvantages of some of them. He believes that a theoretical ideal antacid should possess the following properties: It should be inexpensive, tasteless and not astringent to the mouth mucosa. A small amount of it should neutralize a large amount of acid. It should adsorb pepsin, should be neither constipating nor laxative, should be insoluble so as not to leave the stomach too quickly, should have a prolonged action and should not stimulate a secondary acid rise. Its cation should be unabsorbable so that alkalosis cannot occur. No distressing gases should evolve after its interaction with hydrochloric acid. The author states that magnesium trisilicate N. N. R. approaches this theoretical ideal as closely as any antacid that he used. In susceptible individuals it does have a slight stimulating action on the colon, but he has not encountered the irritating watery movements which so often follow magnesium oxide or carbonate therapy. Magnesium trisilicate has a prolonged neutralizing action in vivo. Many brands offered as magnesium trisilicate do not reach the standards set down by Mutch, who reported that each of seven

brands offered as magnesium trisilicate were different products. Acceptance for N. N. R. should result in a uniformity of the products offered for sale.

American Journal of Physiology, Baltimore

132:1-310 (Feb.) 1941. Partial Index

- Effect of Hyperpyrexia on Secretion and Flow of Bile. S. L. Osborne, F. S. Grodins, L. Goldman and A. C. Ivy, Chicago.—p. 32.
- Reexamination of Role of Stomach in Digestion of Carbohydrate and Protein. J. M. Beazell, Chicago.—p. 42.
- Effect of Histamine on Gastric Secretory Response to Histamine. A. J. Atkinson, A. C. Ivy and Vivian Bass, Chicago.—p. 51.
- Stimulation of Nerves by Direct Currents. A. Rosenblueth, Boston.—p. 99.
- Role of Adrenal Cortex and Anterior Pituitary in Diabetes Insipidus. Malvina Schweizer, R. Gaunt, Naomi Zinken and W. O. Nelson, New York and Detroit.—p. 141.
- Passage of Thiocyanate and Glucose from Blood Stream into Joint Spaces. J. W. Zeller, E. G. L. Bywaters and W. Bauer, Boston.—p. 150.
- Metabolism of Human Spermatozoa. J. MacLeod, New York.—p. 193.
- Absorption of Carotene from Isolated Intestinal Loops. J. L. Irvin, J. Kopala and C. G. Johnston, Detroit.—p. 202.
- Effect of Thiamine Hydrochloride on Muscular Dystrophy of Avitaminosis E. A. D. Holmes and Madeleine G. Pigott, Boston.—p. 211.
- Prothrombin Concentration in Blood of Various Species. A. J. Quick, Milwaukee.—p. 239.
- Factors in Absorption of Insulin from Alimentary Tract. R. L. Driver and J. R. Murlin, Rochester, N. Y.—p. 281.
- Certain Quantitative Aspects of Pancreatic Response to Secretin. H. Greengard, I. F. Stein Jr. and A. C. Ivy, Chicago.—p. 305.

Annals of Surgery, Philadelphia

113:161-320 (Feb.) 1941

- *Frontal Lobectomy in Treatment of Brain Tumors. B. Stookey, J. Scarff and M. Teitelbaum, New York.—p. 161.
- *Subdural Hematoma: Study of 143 Cases Encountered During a Five Year Period. G. H. Laudig, E. J. Browder and R. A. Watson, Brooklyn.—p. 170.
- Extradural Hemorrhage: Study of Forty-Four Cases. D. Munro and G. L. Matthy, Boston.—p. 192.
- Extradural Venous Hemorrhage. F. L. Reichert and E. J. Morrissey, San Francisco.—p. 204.
- Surgical Treatment, by Drainage, of Subacute and Chronic Putrid Abscess of the Lung. H. Neuhoof, A. S. W. Touroff and A. H. Aufses, New York.—p. 209.
- Obliteration of Pleural Space Following Pneumonectomy. F. J. Phillips and W. E. Adams, Chicago.—p. 221.
- Russell Traction in Treatment of Fractures of the Femur: Observations on 156 Cases. K. M. Lewis, New York.—p. 226.
- *Total Thyroidectomy for Heart Disease: Five Year Follow-Up Study. E. C. Cutler and S. O. Hoerr, Boston.—p. 245.
- Chronic Gastric Ulcer, in Childhood, Treated Surgically. G. B. Logan and W. Walters, Rochester, Minn.—p. 260.
- Hydrocele of Femoral Hernial Sac. H. J. McCorkle and H. G. Bell, San Francisco.—p. 264.
- Epidermoid Carcinoma of Extremities with Reference to Lymph Node Involvement. G. W. Taylor, I. T. Nathanson and D. T. Shaw, Boston.—p. 268.
- Hypoproteinemina: Effect of Peroral and Parenteral Administration of Synthetic Vitamin K Substitute (2-Methyl-1, 4-Naphthoquinone). L. M. Tocantins and H. W. Jones, Philadelphia.—p. 276.
- Local Use of Sulfanilamide, Sulfapyridine and Sulfamethylthiazole. J. A. Key and C. J. Frankel, St. Louis.—p. 284.
- Degeneration and Recovery of Autonomic Neurons Following Alcoholic Block. R. L. Merrick, St. Louis.—p. 298.

Frontal Lobectomy for Brain Tumors.—Stookey and his associates discuss their observations of frontal lobectomy for 11 gliomas of the frontal lobe, 3 of which were glioblastomas and the others astrocytomas. All the patients survived the operation and, with the exception of the 3 patients who had extensive glioblastomas, all are alive and carrying on useful lives. In 6 of the patients with astrocytoma the authors were able to excise the tumor completely and, they hope, effect a cure. In the others the tumor extended beyond the line of excision, either dorsally into the motor area or across the midline into the corpus callosum. They have shown some improvement and have made fair social adjustments. More thorough and painstaking clinical studies are essential to detect absence of the frontal lobe after its removal than necessary to determine the presence of a frontal lobe tumor. The frontal lobes are primarily association centers receiving impulses from all other parts of the brain. They are so connected that the proper function of each is dependent on impulses of a certain order and frequency reaching it through the association paths between the two. The study of the 11 patients consisted of a complete neurologic examination on admission and follow-up by social workers at regular intervals. The conclusion reached is that the patients who had their lesion completely excised, whether from the dominant or the nondominant hemisphere,

were intact with regard to their past and present life. They appeared genuine in their responses, and on nonpsychiatric investigation it would be exceedingly difficult to detect that anything had been wrong. Several of them functioned on a better level than before operation. They showed little impairment of general intelligence, planned and executed household duties competently and were able to sew, market, cook and plan for guests and the like. The common everyday performances were not slowed up. In some instances a lack of distractibility was notable. There was no hesitation in putting into effect a decision, and the decision once made was maintained until executed. There was a complete return of the former emotional tone. Frigidity developed in only 1 patient. Some of the patients showed distinct evidence of a new ability to learn. None showed any loss of inhibition or any spatial disorientation. Among the patients in whom the tumor extended beyond the line of incision the results were different. The patients were shallow emotionally, listless, indifferent and lacking in initiative. Three of the patients were able to care for their homes and children and to adjust themselves mentally if no complex situation arose. They were able to talk intelligently with one or two persons but were unable to carry on a conversation with a number of people or in a crowd. The cases offer confirmatory evidence for the theory that when the lesion was completely removed the intact lobe freed from the distorted impulses due to disease of the opposite side proved able to carry on for all practical purposes as efficiently as before. On the other hand, when only partial removal was effected, though there was some improvement an irritant still remained which interfered with synchronous function of the two lobes.

Subdural Hematoma.—Laudig and his colleagues studied 143 cases of subdural hematoma encountered between July 1934 and July 1939. The cases represent all patients in whom the lesion was verified either by operation or at necropsy. The data indicate that most subdural hemorrhages arise from a laceration of a cortical vessel resulting from trauma to the head. Frequently there is a concomitant traumatic lesion of the brain, and its effects cannot be delineated from those produced by the blood clot in the subdural space. A few severely injured patients will recover after the removal of the subdural hematoma, and generally the recovery can be attributed to the prompt removal of the blood clot. The clinical course of some patients who survive the acute phase of a cerebral insult accompanied by a subdural hematoma suggests that an increase in the size of the subdural collection may occur. Repeated encephalograms, at varying intervals, of patients with a subdural collection have demonstrated a progressive shift of the ventricular system away from the lesion. This shift seems to result from an increase in the volume of the subdural collection. Whenever the diagnosis of subdural hematoma is doubtful, air studies may clarify the issue. Surgical removal of a subdural collection is the only therapy. If feasible, operation should be deferred until the acute effects of the injury to the intracranial structures have moderated. The 143 subdural hematomas were encountered among 10,265 cases of cerebral injuries. The position of a subdural hematoma did not necessarily signify the region from which the bleeding occurred. Many necropsy specimens disclosed a laceration of the temporal and/or the orbital surface of the frontal lobe associated with a sizable hematoma in the parasagittal position, yet there was no injury to the crossing veins in this region nor could attachment of the blood clot to the underlying pia-arachnoid be shown. Thirty-two patients were not operated on. They were all severely injured and died shortly after admission. Their lesions were verified at necropsy. A subdural hematoma was suspected in many, but the general physical states of the patients were such that operation was inadvisable. Sixty-six of the 111 patients operated on recovered. They have been followed by the outpatient department and their sequelae (headache, dizziness, convulsions and the like) have occurred in about the same proportion as that encountered in any group of patients who have sustained moderate to severe trauma to the brain. Three patients were committed to psychiatric care and on the average recovered in one year's time and discharged.

Total Thyroidectomy for Heart Disease.—According to Cutler and Hoerr, 57 total thyroidectomies were performed for heart disease at the Peter Bent Brigham Hospital during 1932, 1933 and 1934. Thirty-two of the patients had intractable angina pectoris and 25 some form of congestive heart failure which did not respond to the usual conservative treatment measures. Sixteen patients survived a five year period, 12 in the angina pectoris group and 4 in the group with congestive failure. All but 1 of the patients were examined by the authors. The 41 patients who did not survive were closely followed by the hospital dispensary, and the data concerning the cause of their death are based on the necropsies of 14; 7 deaths occurred in the hospital, but necropsy was refused and the data for the remaining 20 were compiled from letters from attending physicians or death certificates. There were 5 postoperative deaths; 4 of these and all but 3 of the later deaths were attributable to heart disease. The best results were obtained in patients with angina pectoris. Twenty-six of the 27 patients surviving more than six months were relieved of pain in some degree for six months or longer, and 8 of the 12 who survived for five years had sustained relief. The preoperative evidence of congestive failure or cardiac enlargement of the group was an unfavorable prognostic sign for long survival. Fifteen of the 25 patients with congestive failure lived for six months or more, and 12 of these had relief for six months or longer. Four survived five years; 3 had sustained relief and 2 of these 3 died of congestive failure in the sixth year after operation. Results were better in the group having congestive failure from chronic rheumatic valvular disease than from arteriosclerotic or hypertensive heart disease. The authors conclude that total thyroidectomy in a selected group of patients with intractable angina pectoris is a worth while therapeutic measure.

Archives of Neurology and Psychiatry, Chicago

45:199-402 (Feb.) 1941

- Experimental Studies on Headache: A. Contrast of Histamine Headache with Headache of Migraine and That Associated with Hypertension: B. Contrast of Vascular Mechanisms in Preheadache and in Headache Phenomena of Migraine.* G. A. Schumacher and H. G. Wolff, New York.—p. 199.
- Observations on Reflex Responses During Prolonged Periods of Human Refrigeration.* T. Fay and G. W. Smith, Philadelphia.—p. 215.
- Memory Defects During Metrazol Therapy.* E. Ziskind, Los Angeles.—p. 223.
- *Tumors of Brain in Aged Persons.* F. P. Moersch, W. M. Craig and J. W. Kernohan, Rochester, Minn.—p. 235.
- Mechanism of Displacement of Ventricular System in Children with Atrophic Lesions.* B. Crothers and G. M. Wyatt, Boston.—p. 246.
- An American Family with Pelizaeus-Merzbacher Disease.* C. D. Camp and K. Löwenberg, Ann Arbor, Mich.—p. 261.
- Ingestion of Large Doses of Dilantin Sodium.* C. D. Aring and M. Rosenbaum, Cincinnati.—p. 265.
- Elicitation of "Pseudomotor Contracture" in Tongue by Intramedullary Stimulation.* K. B. Corbin, F. Harrison and C. Wigginton, Memphis, Tenn.—p. 271.
- Sugar and Oxygen Metabolism of Brain During and After Insulin Hypoglycemia.* J. Loman, Boston.—p. 282.
- Effects of Insulin and Metrazol Therapy on Cerebrospinal Fluid Proteins.* G. R. Kingsley and H. Freed, Philadelphia.—p. 289.
- Role of Trauma in Amyotrophic Lateral Sclerosis.* R. W. Waggoner and K. Löwenberg, Ann Arbor, Mich.—p. 296.
- Lymphogranulomatosis (Hodgkin's Disease) of Nervous System.* N. W. Winkelman and M. T. Moore, Philadelphia.—p. 304.
- Adaptation of Sayre Apparatus for Use in Encephalography.* Esther H. Read, Boston.—p. 319.
- Infarction of Brain with Unilateral Circulatory Changes.* C. Pilcher, T. E. Wyatt and H. M. Carney, Nashville, Tenn.—p. 321.

Tumors of Brain in Aged Persons.—From the records of the Mayo Clinic for the past twenty years, Moersch and his colleagues collected 100 cases of verified cerebral tumors among patients 60 or more years of age. The series excludes patients sent home after roentgen therapy for a supposed tumor, those for whom decompression was performed after a diagnosis of tumor but concerning whom there was no positive diagnosis at biopsy, patients who refused or were advised against operation, patients for whom palliative decompression was performed for a supposed primary or metastatic tumor and patients sent home with a diagnosis of a vascular cerebral lesion, senility, organic dementia or the like but in whom the possibility of such a tumor had to be entertained. Glioblastoma multiforme, meningioma and acoustic neuroma, in the order named, made up 82 per cent of the tumors. The cerebrum was the most common site (69 per cent) of the tumors. As a result of the advancing years, symptoms and signs were exceedingly variable,

resulting in difficult diagnostic problems. Papilledema or visual defects were of important diagnostic aid; however, their absence could not be accepted as proof that a cerebral tumor did not exist. Eighty-six of the 100 patients were operated on and the diagnosis verified by biopsy or postmortem study. The remaining 14 patients died without having had an operation, and postmortem studies verified the diagnosis. Of the 86 patients operated on 37, or 43 per cent, died postoperatively from the results of the operation, postoperative complications or the effects of a rapidly growing tumor. In many of these elderly patients operation was undertaken either in the hope of saving what vision remained or of saving life. Patients without papilledema or other evidence of increased intracranial pressure presented the most serious operative risk. The excellent operative results of younger patients compensate in a measure for the high mortality rate among the aged patients. The average length of life of the 11 patients with glioblastoma multiforme that could be followed up after operation was four months, the postoperative duration of life of the 12 patients with meningiomas was two and a half years and for the 9 with acoustic neuromas it was three and a half years. The authors state that it is possible that some of the patients whom they were unable to follow may have survived for many years. However, in this age group the natural expectancy of life is relatively short, and some of the patients undoubtedly died of causes other than those resulting from the tumor.

Archives of Ophthalmology, Chicago

25:191-390 (Feb.) 1941

- Results Following Transcranial Operative Attack on Orbital Tumors. W. E. Dandy, Baltimore.—p. 191.
- Treatment of Inclusion Conjunctivitis with Sulfanilamide. P. Thygeson, New York.—p. 217.
- Neuromyoarterial Glomus Tumor in Eyelid. D. B. Kirby, New York.—p. 228.
- Malignant Melanoma of Uveal Tract: Analysis of Forty-Two Cases. S. H. McKee, Montreal, Canada.—p. 238.
- Expansion Tendency of Vitreous and Its put Volume Curve. L. von Sallmann, New York.—p. 243.
- Ocular Lymphogranuloma Venereum. J. P. Macnie, New York.—p. 255.
- Diplobacillus of Petit in Corneal Ulceration: Report of Three Cases. A. J. Elliot, W. P. Chamberlain Jr. and I. Givner, New York.—p. 280.
- Penetration of Sulfathiazole in Eye. J. G. Bellows and H. Chinn, Chicago.—p. 294.
- Acute Retrobulbar Neuritis as Manifestation of Acute Localized Tissue Anoxia: Treatment with Vasodilators. W. F. Duggan, Utica, N. Y.—p. 299.
- Paralysis of Convergence. K. L. Roper, Philadelphia.—p. 336.

Ocular Lymphogranuloma Venereum.—Macnie performed Frei tests on 30 patients with uveitis and keratoconjunctivitis who were suspected of having lymphogranuloma venereum. Four of these gave positive reactions when first tested. In each, pathologic conditions other than the lymphogranuloma venereum were found which could have been etiologic factors in the ocular disease. An experimental study, to confirm the fact that the ocular lesions were due to inoculation of the virus of lymphogranuloma venereum, revealed that 13 of 19 guinea pigs had a conjunctival infection with chemosis of the conjunctiva, associated with infiltration and peripheral vascularization of the cornea in from twenty-four to forty-eight hours after a suspension of mouse brain infected with the virus of lymphogranuloma venereum was injected into the anterior chamber of one eye of each animal. The intensity of the infection increased until a band of vascularized cornea 2 mm. in width surrounded the densely infiltrated central zone, through which the deeper structures of the eye could not be seen. The process reached maximal intensity in from seven to ten days and then slowly subsided. The eye in no instance returned to normal during the ten weeks of observation. The intraocular tension seemed to be low normal in all but 1 of the 13 eyes. In this eye ectasia of the cornea developed. In the 6 remaining eyes there was slight injection at the sites of fixation. This appeared immediately and subsided in from three to five days. In the corneas there also was slight infiltration and this was also gradually absorbed. The infection could not be produced in other guinea pig eyes by transfer of aqueous. Some of the same aqueous inoculated intracerebrally produced the symptoms of lymphogranuloma venereum in white mice. Infected aqueous was introduced into a tissue culture, and an antigen from this culture produced a positive Frei reaction. Tests for cutaneous sensitivity in 9

infected guinea pigs yielded four positive, two doubtful and three negative results. Smears from the iris and posterior surface of the cornea of infected guinea pig eyes, when stained according to the Giemsa method, showed structures of varying size resembling the elementary and initial bodies of trachoma. The author concludes that the virus of lymphogranuloma venereum is one of the causes of the oculoglandular syndrome of Parinaud and may be a cause of other ocular diseases, particularly of inflammations of the uveal tract. It should be considered as a possible causal factor in ocular infections of unknown etiology.

Arkansas Medical Society Journal, Fort Smith

37:183-206 (Feb.) 1941

- Prevention of Abdominal Adhesions. J. K. Donaldson, Little Rock.—p. 183.
- Brief Comparison of Various Suture Materials. J. B. Wharton Jr., El Dorado.—p. 187.

Bulletin New York Academy of Medicine, New York

17:83-162 (Feb.) 1941

- Humanism and Science. A. Gregg, New York.—p. 83.
- Treatment of Bacterial Meningitis. Hattie E. Alexander, New York.—p. 100.
- Newer Knowledge of Vitamin K. W. D. Andrus, New York.—p. 116.
- Massive Dose Chemotherapy by Intravenous Drip Method. H. T. Hyman, New York.—p. 135.

Canadian Medical Association Journal, Montreal

44:107-216 (Feb.) 1941

- Indications for Surgery in Pulmonary Tuberculosis. R. Robertson, Muskoka, Ont.—p. 107.
- *Some Factors in Causation of Intimal Hemorrhages and in Precipitation of Coronary Thrombi. J. C. Paterson, Ottawa, Ont.—p. 114.
- Treatment of Lichen Planus with Vitamin B Complex. J. F. Burgess, Montreal.—p. 120.
- Present Status of Treatment of Coronary Artery Disease. R. S. Stevens, Ottawa, Ont.—p. 124.
- Comparative Study of Three Spinal Anesthetic Agents: New Technic for Nupercaine. J. H. Gifford, Jersey City, N. J., and F. A. H. Wilkinson, Montreal.—p. 128.
- Pitfalls in Gynecologic Diagnosis. W. G. Cosbie, Toronto.—p. 133.
- Gonococcal Pelvic Inflammation. J. C. Goodwin, Toronto.—p. 136.
- Benign Lesions of Cervix. G. L. Watt, Toronto.—p. 141.
- Pyelonephritis of Pregnancy. W. P. Hogarth, Fort William, Ont.—p. 145.
- Kidney Tumors (Analysis of Series of 118 Cases). E. Smith and A. Young, Montreal.—p. 149.
- Congenital Anomalies of Urinary Tract, Underlying Cause in Many Urinary Infections in Children. A. B. Hawthorne, Montreal.—p. 152.
- Value of Remedial Exercises in Treatment. G. H. Fisk, Montreal.—p. 154.
- Atrophic Rhinitis or Ozena in Children. J. G. Strachan, Toronto.—p. 158.
- *Combined Artificial Fever, Chemotherapy and Vaccinotherapy in Neurosyphilis. A. Marin, Montreal.—p. 161.
- Eczematous Dermatitis of Contact Type. S. E. Grimes, Ottawa, Ont.—p. 164.
- Regional Ileitis. W. L. Graham, Vancouver, B. C.—p. 168.
- Effect of Vernix Caseosa on Bacteria. H. Lubinski and B. Benjamin, Montreal.—p. 171.

Intimal Hemorrhages and Precipitation of Coronary Thrombi.—Paterson reviews the evidence which supports the hypothesis that the common cause of coronary thrombosis is intimal hemorrhage. The hemorrhages result from the rupture of capillaries which are derived from the coronary lumen. Increased intracapillary pressure, due to persistent hypertension, is a major factor in the formation of intimal hemorrhages and in the precipitation of coronary thrombi. Transient hypertension following violent physical exertion or emotion will have a similar effect, and therefore these activities should be avoided by patients with coronary artery disease. From a study of the relation of vitamin C deficiency to the incidence of coronary thrombosis and the available evidence it appears that increased capillary fragility due to an inadequate concentration of this vitamin in the blood may be a causative factor in some cases of coronary thrombosis. Therefore such patients should be assured of an adequate vitamin C intake. Calcification of atherosclerotic plaques may be a protection against intimal hemorrhages and coronary thrombosis, and an ample calcium intake is therefore also recommended. The evidence shows that hypertension (persistent or transient), increased capillary fragility due to avitaminosis C and inadequate calcification of atheromatous foci are concerned in the formation of intimal hemorrhages.

Artificial Fever, Chemotherapy and Vaccinotherapy for Neurosyphilis.—From October 1937 to January 1940 Marin treated 220 patients suffering from neurosyphilis, chorea, multiple sclerosis, gonorrhea and other diseases with a combination of vaccine, chemotherapy and hyperpyrexia. His treatment consisted of an injection at 7 a. m. (for example on Monday) of trypanamide followed immediately by a session of five hours of artificial fever at 105 F. On Wednesday and Friday the patient is given an injection of fever-producing vaccine (such as pyriker) and of bismuth. Vaccines give an average temperature of 104 F. This procedure is repeated for ten weeks, after which the patient is treated at the outpatient clinic with pentavalents or neoarsphenamine and bismuth compounds. The 220 patients received 1,318 treatments of about five hours each in a total of 7,568 hours. There was 1 death. Among the group there were 137 patients with neurosyphilis, and 89 of these had fifty hours of artificial fever combined with vaccines and chemotherapy. Far from being debilitating, the combined therapy produced general improvement. The majority of the working asymptomatic syphilitic persons could carry on their occupation. Restlessness, insomnia and headaches were lessened or disappeared during the hyperpyrexia or shortly afterward. The weight of many emaciated patients increased. In tabes, lightning pains and vomiting decreased or disappeared. There was improvement in muscular strength or in gait. In dementia paralytica the remissions (complete or incomplete) usually occurred between the fifth and the tenth session of pyrotherapy. In 3 there was a "flare-up" of the delirium by the end of the fiftieth hour; 2 of these had complete remissions during the next two months. The percentage of full remissions (return to former occupation) among the dementia paralytica patients was 54. Of the 89 patients, 39 are eliminated from serologic study; 18 have been under treatment for less than six months and 21 discontinued treatment at the outpatient clinic, followed it irregularly or refused to have a third lumbar puncture (one before the combined treatment, one after and one after adequate outpatient chemotherapy). The 50 patients were under treatment for from six to eighteen months. Although eighteen months of treatment is not long in cases of neurosyphilis, and six months is almost insignificant, the patients are considered as one group. Before treatment there were 68 per cent of strongly positive fluids as compared with 26 per cent after. There are now 22 per cent of negative fluids, whereas there were none before treatment was started. The weakly positive and doubtful fluids, which at the onset were 16 per cent, are now 30 per cent. It is logical to expect that many of these will soon increase the proportion of the negative group. The 11 patients whose spinal fluid became negative did not all present the same degree of abnormality at the onset, nor did they respond evenly to the treatment.

Illinois Medical Journal, Chicago

79:89-176 (Feb.) 1941

- Pneumonia: Its Diagnosis and Treatment. W. D. Sutliff, New York.—p. 111.
- Need for and Organization of Postgraduate Medical Education as Part of a State Educational Program. J. C. Litzenberg, Minneapolis.—p. 117.
- Control of Tuberculosis. H. V. Hullerman, Springfield.—p. 126.
- Cardiovascular and Systemic Morbidity Following Hyperpyrexia in Central Nervous System Syphilis. A. A. Lieberman and C. J. Katz, Elgin.—p. 132.
- Modification of Use of Typhoid Vaccine in Production of Hyperpyrexia. J. Weinberg and H. H. Goldstein, Chicago.—p. 139.
- Surgery in Syphilis, with Study of Cases in Mental Hospitals: One Hundred and Four Cases Reported. G. A. Wiltrakis, Peoria; A. V. Partipilo and L. Olsman, Chicago.—p. 141.
- Role of Neurosyphilis in "Anesthetic Sphincter Tone." B. L. Greene, Elgin, and L. Committee. C. P. Blair, Monmouth.—p. 148.
- How the Public Health Nurse Works with the Medical Profession. M. Louise Nicol, Springfield.—p. 151.
- Serum: Its Relation to Case Fatality Rate in the Cook County Hospital. F. B. Kelly, E. M. Itz, Chicago.—p. 154.
- Peridural Anesthesia in General Surgery. T. M. Larkowski, Chicago.—p. 158.
- Unusual Twin Pregnancy. C. L. Noggle and L. E. Day, Chicago.—p. 161.
- Scope of Prostatic Resection. P. F. Olson, Dubuque, Iowa.—p. 161.
- Environment and the Patient. R. N. Hedges, Chicago.—p. 163.
- Unusual Autopsy Findings in Case of Brucellosis Treated with Sulfanilamide. W. L. Winters, S. P. Waud and A. C. Bach, Chicago.—p. 167.

Indiana State Medical Assn. Journal, Indianapolis

34:57-110 (Feb.) 1941

- The Heart in Middle Life. G. W. Willison, Evansville.—p. 57.
- A Year of Anesthesia at Indianapolis City Hospital. W. B. Adams, Indianapolis.—p. 61.
- Agranulocytic Angina. R. U. Leser, Indianapolis.—p. 64.
- Treatment of Comminuted Fractures of Lower Leg. W. D. Davidson, Evansville.—p. 66.
- Complications of Pregnancy and Their Treatment. W. A. Shuck, Madison.—p. 69.
- Clinical Significance and Treatment of States Associated with Low Basal Metabolic Rates. H. F. Dunlap, Indianapolis.—p. 73.

Journal of Lab. and Clinical Medicine, St. Louis

26:757-918 (Feb.) 1941. Partial Index

- Familial Nonreaginic Food Allergy as Predisposing Cause of Common Cold. A. F. Coca, Oradell, N. J.—p. 757.
- Determination of Blood Velocity by Lobeline. F. V. Piccione and L. J. Boyd, New York.—p. 766.
- *Toxic Hepatitis Due to Sulfanilamide: Report of Fatal Case with Histopathologic Findings in Liver. S. S. Berger and H. S. Applebaum, Cleveland.—p. 785.
- Evaluation of Combined Effects of Sulfapyridine and Barbiturates in Treatment of Pneumonia. W. L. M. King and H. J. Moersch, Rochester, Minn.—p. 793.
- Incidence of Bacteremia in Patients with Dental Disease. M. Murray and F. Moosnick, Cincinnati.—p. 801.
- Histamine Treatment of Allergic Diseases: I. Asthma and Vasomotor Rhinitis. L. Farmer, New York.—p. 802.
- Investigations on Reticuloendothelial Function of Cancer Patients. K. Stern, New York.—p. 809.
- Vitamin K Activity of 2-Methyl-1, 4-Naphthoquinone and 4-Amino-2-Methyl-1-Naphthol in Hypoprothrombinemia. E. A. Sharp, E. C. Vonder Heide and W. H. Good, Detroit.—p. 818.
- Meat Extracts in Studies of Gastric Function. R. S. Fisher and P. L. Apperly, Richmond, Va.—p. 823.
- Further Observations on Role of Diet in Etiology and Treatment of Spontaneous Hypoglycemia. L. W. Swanson and J. A. Greene, Iowa City.—p. 828.
- Effect of Copper and Iron on Hemoglobin Regeneration. W. M. Fowler and Adelaide P. Barer, Iowa City.—p. 832.

Toxic Hepatitis Due to Sulfanilamide.—Berger and Applebaum report the second fatal case of subacute atrophy of the liver to be cited in the English literature. Permission for necropsy was not obtained, but through a puncture wound several small segments of liver tissue were obtained and the diagnosis was extensive necrosis and replacement fibrosis, with probable toxic hepatitis, subacute yellow atrophy and beginning toxic cirrhosis. From clinical observations the patient apparently had a normal liver by the usual standards of examination, until he began to take sulfanilamide. No other drug was taken, and there was no history of previous contact with hepatic irritants. He ingested 6.6 Gm. of sulfanilamide over three days, and six weeks later 20 Gm. over ten days. This was promptly followed by gastric upset, with nausea and vomiting, and about four days after the drug was discontinued jaundice, enlarged liver and spleen and later ascites developed. A reasonable if not a certain causal relationship can be accepted between the drug and the hepatitis. Further presumptive evidence may be had from the patient's statement that gastric disturbance promptly followed the taking of the tablets and promptly disappeared when discontinued. The case differs from the two fatal cases of hepatitis reported by Bannick, Brown and Foster in that they believed that their patients might possibly have suffered from pre-existing liver damage. It differs also from Garvin's fatal case, in which the hepatitis was complicated by exfoliative dermatitis and anemia, as there were no cutaneous lesions, appreciable anemia or evidence of previous hepatic damage. The possibility of a malignant condition suggested itself, but its absence was ruled out by the enlarged readily palpable spleen on the first admission, and the differential diagnosis in favor of hepatitis and cirrhosis and finally subacute atrophy (necrosis) of the liver was made. This impression was supported by a definite history of sulfanilamide ingestion, absence of malignant cells in the ascitic fluid, the negative peritoneoscopic examination as regards tumors, the interruption in the complete obstruction (evidenced by occasional hydrobilirubin in the stool and urobilinogen in the urine) and the subsequent decrease in the size of the liver. The experience confirms the view of Garvin and others that sulfanilamide should be listed among the agents which may cause severe hepatic damage and emphasizes the fact that it may be fatal. The danger of the indiscriminate use of sulfanilamide thus becomes obvious.

Journal of Nat. Cancer Inst., Washington, D. C.**1:129-276 (Oct.) 1940. Partial Index**

- Effect of Carcinogens on Small Free-Living Organisms: I. Eberthella Typhi. R. R. Spencer and M. B. Melroy, Washington, D. C.—p. 129.
- Breast Cancer in Mice as Influenced by Nursing. J. J. Bittner, Bar Harbor, Maine.—p. 155.
- Significance of Hormones in Origin of Cancer. L. Loeb, St. Louis.—p. 169.
- Complement Fixing Capacity of Rabbit-Papilloma-Virus Protein. W. R. Bryan, Washington, D. C.; Dorothy W. Beard and J. W. Beard, Durham, N. C.—p. 197.
- Biologic Testing of Carcinogens: I. Subcutaneous Injection Technic. M. B. Shimkin, Washington, D. C.—p. 211.
- Id.: II. Pulmonary Tumor Induction Technic. H. B. Andervont and M. B. Shimkin, Washington, D. C.—p. 225.
- Squamous Cell Carcinoma and Other Lesions of Forestomach in Mice, Following Oral Administration of 20-Methylcholanthrene and 1,2,5,6-Dibenzanthracene: Preliminary Report. E. Lorenz and H. L. Stewart, Washington, D. C.—p. 273.

Journal of Neurophysiology, Springfield, Ill.**4:1-134 (Jan.) 1941**

- Observations on Cortical Somatic Sensory Mechanisms of Cat and Monkey. W. H. Marshall, C. N. Woolsey and P. Bard, Baltimore.—p. 1.
- Observations on Subcortical Somatic Sensory Mechanisms of Cats Under Nembutal Anesthesia. W. H. Marshall, Baltimore.—p. 25.
- Pupillo-dilator Reactions to Sciatic and Diencephalic Stimulation: Comparative Study in Cat and Monkey. E. A. Weinstein, New Haven, Conn., and M. B. Bender, New York.—p. 44.
- Flicker Potentials and Alpha Rhythm in Man. J. Toman, Princeton, N. J.—p. 51.
- Effects of Prefrontal Lobotomy on Depressed Patients. P. Worchel and J. G. Lyerly, Chattahoochee, Fla.—p. 62.
- Sympathetic Preganglionic Outflow to Limbs of Monkeys. D. Sheehan and A. S. Marrazzi, New York.—p. 68.
- Recovery of Responsiveness in Motor and Sensory Fibers During Relative Refractory Period. E. T. von Brücke, Marie Early and A. Forbes, Boston.—p. 80.
- Technic and Evaluation of Electroencephalogram. Pauline A. Davis, Boston.—p. 92.
- Activity in Neurons of Bulbospinal Correlation System. D. P. C. Lloyd, New York.—p. 115.

Maine Medical Association Journal, Portland**32:27-50 (Feb.) 1941**

- Problems in Surgery of Intestine. E. E. O'Donnell, Portland.—p. 27.
- Tuberculosis Case Finding with Reference to General Hospitals. L. Adams, Greenwood Mountain.—p. 31.
- Rorschach Test in Diagnosis of Psychoses and Psychoneuroses. A. A. Weil, Augusta.—p. 35.

Military Surgeon, Washington, D. C.**88:97-226 (Feb.) 1941**

- *Prevention and Treatment of Shock in Combat Zone. D. B. Kendrick Jr.—p. 97.
- Discussion of Prevention and Treatment of Shock in Combat Zone. J. A. Mattison.—p. 114.
- *Blood Plasma. J. Elliott, W. L. Tatum and G. F. Busby.—p. 118.
- Discussion of Blood and Plasma Transfusions. M. E. Hubbard.—p. 125.
- New Facts on Blood Groups, with Special Reference to Military Purposes. R. B. H. Gradwohl.—p. 128.
- Story of Blood Transfusion: Its Civilian and Military History. J. Hirsh.—p. 143.
- Disease in Naval Warfare. J. C. Adams.—p. 158.
- System of Records for Hospital Clearing Station. D. G. Friend and H. S. Reid.—p. 163.
- Calcium and Phosphorus in Relation to Oral Pathology. W. A. Musgrave.—p. 169.
- Repair of Facial Defects with Prosthesis Using Latex Compound. A. H. Bulbulian.—p. 179.
- Hypertrophy of Genitalia: Case Report. C. Ferguson.—p. 182.
- Detection of Iodides in Urine by Orthotolidine Test. C. C. Gill.—p. 184.
- Surgeon Benjamin King: Genesis of the United States Soldiers' Home. J. M. Phalen.—p. 187.

Prevention and Treatment of Shock in Combat Zone.

—Kendrick suggests the following preventive and treatment measures for shock which can be initiated early at the combat zone: At the battalion aid station hemorrhage can be controlled by the application of tight fitting dressings, packing the wounds with sterile gauze, ligating large bleeding points or by the application of tourniquets only when essential. The time of application should be noted on the emergency medical tag. If a sucking wound of the chest is found it should be closed by packing or immediate suturing. Fractures and extremities should be well splinted before the patient is moved. Bayonets, rifles, lumber and rolled blankets are poor substitutes for splints. Men with fractured vertebrae should be transported in hyperextension without an attempt at reduction. From $\frac{1}{4}$ to $\frac{1}{2}$ grain (0.016 to 0.03 Gm.) of morphine sulfate should be given to

control pain. A barbiturate, sodium amylal or pentobarbital sodium in approximately 3 grain (0.2 Gm.) doses should also be given orally. The administration of the drugs should be recorded on the emergency medical tag. Morphine should be withheld from patients with head injuries. Wounded men with no trauma to the abdomen should be given water when it is available. If possible from 50 to 100 cc. of concentrated plasma should be given the severely injured. Its injection at this time will do more to reduce the mortality from shock than any other single factor. Exposure to cold can be prevented by covering patients with blankets. Three blankets can be folded on a litter so as to provide four folds above and four beneath the patient. The supplying of blankets to the battalion aid station is the function of a collecting company and should be continuous. As little clothing as possible should be removed while dressings are applied, to prevent undue exposure. Infection in wounds is best prevented by early chemotherapeutics; therefore a sulfonamide compound in adequate dosage should be given orally and as early as possible and its concentration maintained by repeated doses at intervals of four hours. The effect of the drug is directly proportional to its concentration up to a therapeutic level. Shock is no contraindication to its administration. Dressings should be checked at collecting stations for severe hemorrhages, which, if present, should be controlled. A tourniquet, if applied at the aid station, should be released and reapplied only if necessary. If the patient needs fluids, 100 cc. of concentrated plasma should be injected intravenously. Antitetanic therapy and polyvalent antiperfringens serum should be given subcutaneously. Splints should be checked for proper application and comfort. Hot drinks (cocoa, coffee and tea) should be available except for those patients with abdominal injuries. When the foregoing measures have been performed, the severely injured should be placed in heated ambulances and evacuated to the casualty clearing station. Here wet clothing should be replaced and the patients placed in shock beds, the heads of which are elevated. Heat should be applied by hot water bottles to the axilla and groin. From 250 to 500 cc. of plasma of normal concentration should be given. The amount depends on the response of the patient. A sufficient quantity should be injected to prevent shock. High concentrations of oxygen should be administered by the B. L. B. (Boothby, Lovelace and Bulbulian) oxygen face mask. Hot drinks are indicated except for patients with abdominal injuries. Barbiturate medication should be repeated, especially when operative procedures are to be performed. Morphine sulfate may be repeated. When a surgical hospital or mobile surgical unit is attached to the casualty clearing station the severely injured who require surgical intervention should be operated on as soon as treatment has been effected. These units should carry trained anesthetists. The prognosis of certain types of injury (penetrating wounds of the chest, brain, abdomen and joints) depends and requires early attention before shock and infection ensue.

Blood Plasma.—Elliott and his associates have prepared blood plasma in large quantities in an entirely closed system. A 600 cc. transfuso-vac has been replaced by a 300 cc. centri-vac containing 35 cc. of anticoagulant. Two bottles of blood can be collected from each donor. The blood is collected in a vacuum, and contamination can occur only if the operator is careless in handling the needles. The sealed bottles of blood still under vacuum are stored at refrigerator temperature for one or two days, after which they are centrifugated for about one hour at 2,000 revolutions per minute. After centrifugation they are again refrigerated for a few hours so that the few cells that swirl in the supernatant plasma as the centrifuge comes to rest settle out. The protecting rubber diaphragm is removed from the centri-vacs, the rubber stoppers are sterilized, an air filter is inserted into one of the indentations and a valve is connected with the rubber tubing, which in turn is connected with a long aspirating needle and it is passed through the X mark in the rubber stopper of a plasma-vac. The long needle is thrust through the second indentation of the centri-vac and the plasma is aspirated into the plasma-vac. The second bottle is prepared in a similar manner and the plasma is aspirated. Merthiolate may be added in sufficient quantity so that the final concentration is 1:10,000, by aspirating the desired quantity of 1 per cent merthiolate from a sterile

15 cc. centrifuge tube between aspirations. In the event of war the great need for plasma cannot be supplied by one center. In the United States local voluntary donors can be enlisted through local Red Cross chapters. The machinery has already been set up. Blood can be collected in many hospitals and converted into plasma at central points. Bottles of blood can be shipped by mail, plane and bus and converted into plasma without the loss of a single bottle. The use of plasma as a substitute for whole blood has passed through the experimental stage and its effectiveness in shock, hemorrhage, burns and the hypoproteinemic state is now recognized. Its usefulness during war is being proved in the present conflict. With the technic presented, the authors believe that it should be possible for many institutions to enter into any program for the preparation of plasma in large quantities.

Minnesota Medicine, St. Paul

224:71-144 (Feb.) 1941

- Malmros-Hedvall Lesions of Pulmonary Tuberculosis in Adults. A. T. Laird, Nopeming.—p. 71.
Vollmer Patch Test and Mantoux Test. F. M. Feldman, Rochester, in collaboration with A. F. Risser and E. R. Schwartz, Stewartville.—p. 76.
Pneumonia in Rural Communities. R. V. Williams, Rushford.—p. 78.
Carcinoma of Stomach. J. T. Priestley, Rochester.—p. 81.
Prognosis Following Palliative Resection for Carcinoma of Sigmoid. C. W. Mayo and J. M. Miller, Rochester.—p. 84.
Starting the Practice of Medicine. J. M. Hayes, Minneapolis.—p. 86.
Present Surgical Management of Esophageal Diverticula with Presentation of New (?) Method. S. R. Maxeiner, Minneapolis.—p. 91.
Postmortem Findings in Cases of Diabetes. T. J. Dry and C. F. Tessmer, Rochester.—p. 96.
*Brucellosis. I. Fisher, Ceylon.—p. 106.
Seminal Vesiculitis. R. F. Hedin, Red Wing.—p. 108.

Brucellosis.—Fisher encountered 10 cases of brucellosis within eighteen months. He used sulfanilamide for the treatment of 8 and obtained good results. For the remaining 2 patients triple typhoid vaccine was also used after eight to ten days of sulfanilamide treatment. After two bouts of fever these patients were again given sulfanilamide. The temperature soon dropped to normal and remained there. In 1 patient, sulfapyridine was substituted for sulfanilamide and used in the same manner as in the treatment of pneumonia. The temperature became normal within thirty-six hours and remained there. Sulfanilamide had been used for eight days previously without any change in temperature. Two patients relapsed; in 1 relapse occurred twice, two and three weeks, respectively, after discontinuing sulfanilamide. The sulfanilamide had been used for two weeks during each course of treatment. Relapse in the second case was controlled more easily. Both patients eventually became afebrile. Eight of the 10 patients handled livestock, the 2 others neither handled livestock nor drank milk, and the source of their infection could not be traced. More public health measures may be necessary to curb a further increase of this disease.

New England Journal of Medicine, Boston

224:179-220 (Jan. 30) 1941

- *Exploration and Division of Femoral and Iliac Veins in Treatment of Thrombophlebitis of Leg. J. Homans, Boston.—p. 179.
Sarcoidosis with Bronchial Involvement: Report of Case with Bronchoscopic and Pathologic Observations. E. B. Benedict and B. Castleman, Boston.—p. 186.
Peripheral Arterial Embolism: Discussion of Postembolic Vascular Changes and Their Relation to Restoration of Circulation in Peripheral Embolism. R. R. Linton, Brookline, Mass.—p. 189.
Comparative Prothrombin Responses to Vitamin K and Several of Its Substitutes in Case of Nontropical Sprue. J. G. Allen, Chicago.—p. 195.
*Symptomatic Treatment of Functional Dysmenorrhea by Amphetamine (Benzedrine) Sulfate. Z. Eileen Taylor, Winchester, Mass.—p. 197.
Medical Aspects of Obstetrics. T. R. Goethals, Boston.—p. 200.

Division of Femoral and Iliac Veins for Thrombophlebitis.—Homans states that bland, nonobstructing thrombosis of the leg, whether occurring in active life or during convalescence or invalidism in bed and whether confined to the venous plexuses among the muscles below the knee or also occupying the femoral and even the iliac veins, is a frequent source of pulmonary embolism. This type of thrombosis, though difficult to identify, can often be diagnosed, whether or not embolism has occurred, by a combination of clinical symptoms

with discomfort behind the knee on forced dorsiflexion of the foot. Conservative treatment of the disorder is usually justified, but, when embolism has occurred or when symptoms and signs have recurred at least once, exploration and division of the femoral vein are advisable. Exploration and division of the femoral and iliac veins may also be indicated for peripheral vasospasm, especially when the vein has been the seat of a previous thrombophlebitis, and repeated once or twice in an effort to guard against recurrence of pulmonary embolism. Division of the superficial femoral vein, in the presence of a bland non-obstructing thrombosis below the knee, is rapidly curative. It does not lead to swelling and cyanosis of the leg. Division of the common femoral and profunda veins for a bland non-obstructive thrombosis that occupies the femoral vein causes considerable edema and cyanosis. Division of the superficial femoral, common femoral or even common iliac vein following an old canalized thrombophlebitis causes little disturbance and may, by relief of reflex vasospasm and curtailment of backflow, benefit the venous circulation.

Amphetamine Sulfate for Functional Dysmenorrhea.—Thinking that a therapeutic agent causing relaxation of smooth muscle and increasing the sense of well being might be of value in the treatment of functional dysmenorrhea, Taylor tried amphetamine sulfate. She has used amphetamine sulfate successfully for dysmenorrhea in her practice for three years for 34 women with dysmenorrhea with no underlying responsible gynecologic disorder. Glandular dysfunction and organic lesions, when present, were treated appropriately before treatment with amphetamine sulfate was begun. The patients were given three trial doses of 2.5, 5 and 10 mg. of the drug during intermenstrual periods. A sufficient quantity of the drug for the next menstrual period was then given. No comment on the nature of the medication was made. The patients were instructed to take one 10 mg. tablet of amphetamine sulfate before breakfast for two days before the expected period and the day of the period. The dose was to be repeated if pain was not relieved. They were not permitted to take more than 20 mg. a day, or to take the second tablet after 2 p. m., without permission. The treatment lasted three or four days, depending on the expected duration of symptoms. On alternate periods the patients were unknowingly given placebos or analgesics (salicylates or codeine). No leading questions were asked, but the patients were instructed to describe the symptoms at each menstrual period. Among the 34 patients there were only two untoward reactions. The first was a manic phase induced by a test dose of 5 mg. of the drug in a patient who later was proved to have a manic depressive psychosis. The second was in a patient with anxiety neurosis who refused medication because palpitation occurred with the test dose. There was no indication of tolerance or habit formation. Amphetamine sulfate appeared not to have any effect on the amount of menstrual flow. The drug relieved pain, fatigue and depression of patients in whom other measures had failed. This was confirmed by the substitution of placebos or other medication during alternate periods when symptoms recurred. Of the patients, 40 per cent obtained complete relief and an equal number moderate relief. In 16 per cent the apparent benefit of the drug was not maintained, and 2 patients reported that they were worse under medication. It is concluded that amphetamine sulfate is valuable for treating dysmenorrhea and that it is well adapted to ambulatory patients.

New Orleans Medical and Surgical Journal

93:387-438 (Feb.) 1941

- Primary Carcinoma of Lung. A. Ochsner and M. DeBakey, New Orleans.—p. 387.
Treatment of Chronic Infectious Arthritis. M. W. Matthews, Shreveport, La.—p. 396.
Clinical and Hematologic Studies in Some Blood Dyscrasias. C. J. Tripoli and D. E. Fader, New Orleans.—p. 402.
Application and Interpretation of Friedman Modification of Aschheim-Zondek Test. A. V. Friedrichs, New Orleans.—p. 408.
Diagnosis and Treatment of Sterility. W. A. Dial, Baton Rouge.—p. 413.
Use of Sulfanilamide in Peritonitis. M. L. Michel, New Orleans.—p. 419.
Dr. Thomas Hunt. R. M. Laundry, New Orleans.—p. 426.

Public Health Reports, Washington, D. C.

56:129-166 (Jan. 24) 1941

Study of Effect of Lead Arsenate Exposure on Orchardists and on Consumers of Sprayed Fruit. P. A. Neal, W. C. Dreessen, T. I. Edwards, W. H. Reinhart, S. H. Webster, H. T. Castberg and L. T. Fairhall.—p. 129.

*Cancer in the Mentally Ill. S. Peller and C. S. Stephenson.—p. 132.
An Institutional Outbreak of Pneumonitis: III. Histopathology in Man and Rhesus Monkeys in Pneumonitis Due to Virus of Q Fever. R. D. Lillie, T. L. Perrin and C. Armstrong.—p. 149.

56:167-210 (Jan. 31) 1941

Principal Provisions of Smallpox Vaccination Laws and Regulations in the United States. W. Fowler.—p. 167.
Procedure for the Maintenance of Housing Standards in Milwaukee. C. L. Senn.—p. 189.

Cancer in the Mentally Ill.—According to Peller and Stephenson, 9,503 patients were admitted to St. Elizabeths Hospital, Washington, D. C., from 1930 through 1939. During this time 4,529 patients were discharged and 2,665 died. The residence of all those who died ranged from a few weeks to almost fifty years. On the average 5,395 patients were on the rolls. During the ten years under consideration 227 patients with cancer were discovered, 189 of whom died in the hospital, 7 were discharged and 31 were still alive on Dec. 31, 1939. A postmortem examination was done of 155 of the cancer deaths. The distribution of the fatal primary cancers, according to site, does not reveal definite deviations from the expectancy. The percentage of cutaneous and lip cancer was much smaller than expected. The ratio of cancer deaths for the period (7.1 per cent) is low; the ratio for the years 1938 to 1940 is higher than for the years 1930 to 1937. The cancer mortality of the white psychotic patients (69 were Negroes) from the area is significantly lower than that of the corresponding white population of New York City. Two thirds of the patients were born in the South; one third were born in the North but lived in the South before admission to the hospital. For the patients born in the South and residing there before admission the mortality was 38.3 per cent less than the expectancy, while for those born farther north but who migrated to the South it was 27 per cent less than the expectancy. The cancer mortality of the psychotic ex-soldiers and of the Negro patients does not deviate from the data calculated on the cancer statistics of the white population of New York City. During the years 1938-1940 the number of cancer deaths exceeded tuberculosis deaths among the residents of St. Elizabeths Hospital; previous to 1938 tuberculosis deaths were more numerous. In 15 of the 94 male cancer patients and in 11 of the 61 female patients examined post mortem no metastases were found. Secondary involvement was most frequent in the lymph glands and liver. The liver of 61 patients (41 male and 20 female) was secondarily involved. The next sites in order of frequency were the lungs (15 cases in males and 14 in females), bones (18 cases), brain, peritoneum, adrenals, pleura and kidneys.

Review of Gastroenterology, New York

8:1-76 (Jan.-Feb.) 1941

- *Further Observations on Use of Food in Treatment of Bleeding Peptic Ulcer (Meulengracht Diet). W. D. Mayer and J. J. Lightbody, Detroit.—p. 1.
New Concepts of Colitis and Other Intestinal Infections. J. Felsen, New York.—p. 8.
Allergic Reactions in Gastrointestinal Tract. J. H. Black, Dallas, Texas.—p. 17.
Some Pathologic Aspects of Carcinoma of Rectum. S. P. Reimann, Philadelphia.—p. 24.
Etiology of Peptic Ulcer. L. C. Sanders, Memphis, Tenn.—p. 30.
Primary Melanoma of Small Intestine: Report of Case. W. C. Gordon, New York.—p. 36.
Appendix Overlying the Liver in a Case of Undescended Cecum. A. X. Rossien, New Gardens, N. Y., and Z. Sagal, New York.—p. 44.
Functional and Biopsy Studies on Human Liver Following Administration of Unconjugated-Ketocholanic Acids. C. J. DeLor, J. W. Means, G. Y. Shinowara and H. L. Reinhart, Columbus, Ohio.—p. 48.
Cholesterol Studies of Blood in Diseases of Liver and Biliary System: Critical Review of 158 Cases. E. Boros, New York.—p. 55.

Meulengracht Diet for Bleeding Peptic Ulcer.—During four years Mayer and Lightbody treated 133 patients by the Meulengracht regimen or their modification of the method. All the patients made excellent recoveries. If indicated, various alkaline powders, creamalin, amphotel, iron preparations, liver

extract and vitamin C were given. There were 7 deaths among the 133 patients. Secondary hemorrhage occurred in 14 patients; this includes 2 of the patients who died. Eight patients were continued on the diet in spite of the hemorrhage and made excellent recoveries. The bleeding of 2 patients ceased when the Meulengracht regimen was discontinued and starvation therapy instituted. In 3, secondary bleeding occurred with both the Meulengracht and starvation treatment; 1 of these then had a gastric resection with excellent recovery and the remaining 2 eventually recovered. The diet failed to relieve 4 patients. These patients refused to eat because of abdominal pain after eating; they were then placed on a Sippy diet with relief of pain. A previous history highly suggestive of gastric or duodenal ulcer was given by 113 of the patients, while 64 showed definite roentgen signs. Some degree of anemia, at times requiring blood transfusions, was encountered in most of the patients. The patients improved more rapidly than those treated by the starvation method. This coincides with the experience of Schiodt. The authors feel that the Meulengracht diet has definite merit. Analysis of the deaths discloses that 2 patients had malignant disease, 2 died of cardiac disease while recovering from hemorrhage, 1 died within two days after hospital admission without having eaten any food, 1 died soon after roentgen examination, which seemed to institute an uncontrollable hemorrhage, and 1 died after being on the Meulengracht regimen for twelve days. The failures, secondary hemorrhage and abdominal pains that occurred are frequent complications among patients treated by the usual starvation methods. It was apparent to the authors that the patients tolerated the diet remarkably well, were comfortable, rested easily, required little morphine, usually only at the onset of the treatment, and seldom was it necessary to administer hypnotics. There was no begging for food and water. None of the patients became irrational. Some of the patients had been hospitalized previously for hematemesis and were treated by the starvation method. They all stated that this method was far more agreeable.

Rhode Island Medical Journal, Providence

24:19-36 (Feb.) 1941

- The Edwin Smith Surgical Papyrus. R. Hammond, Providence.—p. 19.
Luetic Heart Disease in Rhode Island. C. B. Leech, Providence.—p. 25.

Rocky Mountain Medical Journal, Denver

38:89-168 (Feb.) 1941

- The Medical Profession's Ideals in Medical Service. A. C. Callister, Salt Lake City.—p. 106.
Placenta Praevia and Its Management. C. B. Ingraham and W. W. Tucker, Denver.—p. 113.
A Pediatric Program for the Family Physician. M. G. Peterman, Milwaukee.—p. 118.
*Parathyroid Tumors Causing Hypercalcemia. M. C. Jobe, Denver.—p. 121.

Parathyroid Tumors Causing Hypercalcemia.—Jobe believes that earlier medical literature has been confused and that no doubt parathyroidectomies have been performed needlessly for osseous lesions or Ewing's tumor, for sarcoma of the bone, for metastatic carcinomatosis of the skeleton and especially for Paget's disease. As improved laboratory techniques have developed, agreement is crystallizing that unless hypercalcemia and hypercalciuria with a hypophosphatemia and an increase in plasma phosphatase are associated with roentgen signs of cystic formation in the skeleton or renal calculi and high hypercalcemia one is not justified in subjecting a patient to an exploratory operation for parathyroid tumor. The operation is hazardous. The differential diagnosis between hyperparathyroidism and similar appearing lesions of the skeleton, as Paget's disease, chiefly hinges on a careful history and physical examination and then on the absence of hypercalcemia. No case of Paget's disease has shown a definite hypercalcemia as does a parathyroid adenoma. Although the clinical observations of hyperparathyroidism are becoming more readily recognized, it is hoped that every aid in its diagnosis to rule out other bony lesions will be used. Only when a patient with the foregoing cardinal blood and roentgen changes is found in search for parathyroid tumor justified, otherwise the operation will be greatly abused and end in disappointment.

Southern Medical Journal, Birmingham, Ala.**34:1-134 (Jan.) 1941. Partial Index**

- Extensive Frontal Injuries. E. F. Fincher, Atlanta, Ga.—p. 1.
 Treatment of Some Less Common Corneal Diseases. S. R. Gifford, Chicago.—p. 8.
 Fenestration of Labyrinth in Chronic Conductive Deafness: Analysis of Results Obtained. E. H. Campbell, Philadelphia.—p. 13.
 Treatment of Malignant Tumors of Adult Kidney. V. J. O'Connor, Chicago.—p. 27.
 Surgical Treatment of Lymphogranulomatous Strictures of Rectum: Report of Twenty-Four Cases. H. E. Bacon, Philadelphia.—p. 31.
 Early Diagnosis and Treatment of Carcinoma of Rectum. T. E. Jones, Cleveland.—p. 35.
 Treatment of Surgical Shock with Blood Plasma. C. S. White, J. L. Collins and J. Weinstein, Washington, D. C.—p. 38.
 Interrelation Between Vitamin B Complex and Anterior Lobe of Pituitary Gland. D. C. Sutton, Chicago.—p. 47.
 Diagnosis and Treatment of Purpuric Diseases. R. R. Kracke, Emory University, Ga.—p. 56.
 Immunization Against Infectious Diseases in the United States Army. J. S. Simmons, Washington, D. C.—p. 62.
 Child Health: Responsibility of the Family Physician and the Pediatrician. H. F. Garrison, Jackson, Miss.—p. 67.
 An American Health Program. N. B. Van Etten, New York.—p. 81.
 Building Health Defenses. T. Parran, Washington, D. C.—p. 85.
 The Naval Medical Officer's Public Health Activity, with Special Reference to National Defense. C. S. Stephenson, Washington, D. C.—p. 90.

Southern Surgeon, Atlanta, Ga.**10:79-152 (Feb.) 1941**

- *Vaginal Smears Correlated to Ovarian Function (4½ Months Fetus Through Puberty). M. J. Bennett, Philadelphia, and P. B. Russell Jr., Memphis, Tenn.—p. 79.
 Intestinal Intubation. M. Thompson, Louisville, Ky.—p. 88.
 Critical Review of 1,600 Blood Transfusions in Private Practice. J. E. Watson Jr. and R. L. Sanders, Memphis, Tenn.—p. 93.
 Stenosing Tendovaginitis at Radial Styloid Process. C. F. Wood, Louisville, Ky.—p. 105.
 Relationship Between Fecaliths in Appendix and Gangrenous Appendicitis. W. J. Tennen 3d and C. F. Dixon, Rochester, Minn.—p. 111.
 Pulmonary Complications in Surgery of Biliary Tract: Study of 132 Consecutive Cases. H. B. Asman, Louisville, Ky.—p. 116.
 Single Unit Cotton Thread Surgical Technic. K. P. A. Taylor, Puerto Armuelles, Panama.—p. 125.
 Use of Hanging Cast in Treatment of Fractures of Humerus. R. T. Hudson, Louisville, Ky.—p. 132.
 Pancreatic Lithiasis with Diabetes: Report of Four Cases. T. H. Thomason, Fort Worth, Texas.—p. 135.

Vaginal Smears Correlated to Ovarian Function.

Bennett and Russell believe that study of the vaginal smear will aid in the proper diagnosis of many conditions now considered out of the realm of gynecology. They obtain the smear in the following manner: A sterile cotton-tipped applicator is moistened with tap or distilled water and inserted just within the introitus. The specimen is procured by a gentle rotary motion and then it is rolled on a clean slide and the material is allowed to dry at room temperature without fixation. Approximately 15,000 slides have been examined in the authors' clinic since 1935, and the results are as reliable as the fixation method. The vaginal smear of the pregnant woman at eighteen weeks contains many types of bacteria accompanying a luteal domination. However, the smear from her 18 week fetus shows that there is only follicular stimulation. This suggests that the ovaries of the fetus have begun to function and are practically independent of further maternal influence. The 7 lunar month fetus continues to exhibit a follicular stimulation, but the maternal vaginal smear now shows a predominant follicular influence. Smears from a full term baby and the mother on the day of birth give evidence of a similar hormone influence. Daily smears taken from the full term newborn infant show that follicular stimulation gradually decreases until there is no evidence of it by the time the baby is 94 days old. One of the plausible reasons for the high incidence of infections among premature female infants may be attributable to the fact that they are born during the luteal domination period and are not as well prepared for their new environment as the full term baby. No bacteria are found in the vaginal smears from either fetus or newborn infant until they have been exposed to a new environment. Estrogenic determinations of the placental blood from a normal pregnant woman at term recovered at cesarean section substantiate the vaginal smear findings that the parent does not control the ovarian functions of the fetus. The influence on the nursing baby's ovaries by the hormones in maternal milk is negligible, as exemplified by studies of smears from the mother and baby two hundred and twenty days after delivery. The follicular and luteal predominance recur at a definite cyclic period through the remainder of the normal individual's life

until changes of menopause take place. Abnormal ovarian conditions would alter this cyclic pattern. An article concerning these cases is to be published. However, the cycle of the mature female and a diagnosis of abnormal ovarian conditions may be predicted by studying the vaginal smears of the young female previous to the onset of the menses or puberty. Striking examples of pathologic ovarian conditions in the child are the prepubescents who menstruate, the child mothers and perhaps the baby who menstruates because of estrogenic overstimulation. The vaginal smear can aid in medicolegal questions demanding proof of criminal assault. Trauma can be diagnosed readily, and the authors have found spermatozoa in the vaginal smear two days after coitus. The masturbating female has been detected by vaginal smears.

Southwestern Medicine, El Paso, Texas**25:1-34 (Jan.) 1941**

- Management of Chronic Asthma. R. M. Balyeat, Oklahoma City.—p. 1.
 Present Concept of the Cancer Problem. J. R. Maxfield Jr., Albuquerque, N. M.—p. 4.
 Intravenous Anesthesia: Its Increased Possibilities When Combined with Various Other Methods of Anesthesia. R. C. Adams and J. S. Lundy, Rochester, Minn.—p. 8.
 Correction of Abnormally Large or Small Breasts. H. O. Barnes, Los Angeles.—p. 10.
 Transitory Myopia Following Sulfanilamide. M. P. Spearman, El Paso, Texas.—p. 13.
 *Iris Changes in Syphilis: Clinical Survey. J. T. Lowry, Alamogordo, N. M.—p. 14.

Iris Changes in Syphilis.—Lowry describes a change from normal in the iris of syphilitic patients. The pupillary and ciliary zones are normally marked by radial striae, the inner zone being more heavily striated than the outer. The normal brown iris usually presents a smooth anterior surface in which changes in its contour are readily noticed, while normally the blue iris has a more complex pattern and changes in its contour and pattern are not as easily recognized. Basically the iris in patients with syphilis presents the following deviations from the normal: 1. The inner zone in relation to the outer zone is set on a deeper or posterior plane. 2. The line of demarcation between the two zones is more jagged and is not so concentric with the pupillary margin of the iris. 3. The outer segment is irregularly pitted by small oval or pear-shaped depressions whose long axis is perpendicular to the pupillary margin. These are known as the crypts of the iris. They are sometimes seen in normal eyes but in no large numbers. 4. In a large percentage of patients with syphilis the pattern of the iris is almost entirely lost. The anterior surface of the iris is characterized by a bizarre pattern which is easily recognized. It is characterized only by an extreme irregularity. There seems to be no relation between the occurrence of this change and the stage of the infection. Three types of patients were examined for this sign: 43 normal controls, medical students, doctors, nurses and technicians, 96 patients in the outpatient syphilis clinic at Parkland Hospital and 139 general hospital patients. The findings were checked with serologic reports and with the history. Of the last group 41, or 29.5 per cent, had syphilis. Sixteen had a positive iris and a negative Kline test and history. Ten had a negative iris and a positive Kline, Kahn, Wassermann and history. The iris sign gave a correct diagnosis in 81.3 per cent of the hospital patients. Of the normal controls the iris sign gave 6.8 per cent false positives and 93.2 per cent true negatives. The respective figures for the syphilitic group are 17.7 and 82.3 per cent. The number of false positives in the normal control group is much less than in the hospital patients. The reason for this is difficult to explain, but the normal control group was composed of young people in good health and economic status and the hospital group was composed of the general run of patients of a large charity hospital. The survey will be continued, with certain changes of method which may allow more accurate estimation of the probable benefit of the method. The next series will consist of patients known to have syphilis and for whom accurate and extensive records and serologic studies are available. An attempt will be made to correlate the time at which treatment was started, the time of occurrence of iris changes with regard to the stage of the disease, the occurrence of iris changes in congenital syphilis and an attempt to grade the changes in the iris.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

British Medical Journal, London

1:107-144 (Jan. 25) 1941

- *Acute Bronchiolitis in Children. D. Hubble and G. R. Osborn.—p. 107.
Exploration of Common Bile Duct for Stone: Drainage with T Tube and Cholangiography. M. J. Smyth.—p. 111.
Direct Drainage of Lung Cavities in Pulmonary Tuberculosis. J. V. Cussen.—p. 115.
Feminism. L. R. Broster.—p. 117.
Prosthetic Ulcer of Mouth. H. T. Simmons.—p. 119.

Acute Bronchiolitis in Children.—Hubble and Osborn state that, during the first ten weeks of 1940, 50 children with an acute respiratory infection were admitted to the Derbyshire Hospital. Of these 27 were less than 1 year old; 7 children less than 2 years of age died. Six other children were seen in family and consulting practice, and although little was added to the clinical picture, 2 healthy middle-class children respectively 4 and 2 years of age died. This corrects the common impression that fatalities do not occur except in infants or in debilitated children. Not all the children were suffering from acute bronchiolitis. The final diagnosis in some was acute bronchitis and in others bronchopneumonia, but in many there was a phase in the infection when the small bronchioles were filled with exudate. Occasionally the children died in this phase of obstructive dyspnea; some recovered without further extension of the inflammatory process, but more often bronchopneumonia developed, in 3 with a fatal termination. Acute bronchiolitis is rarely seen except when influenza of a respiratory type is epidemic. It is not limited to any age group. The fact that in children less than 2 years of age the attack may be overwhelming may depend on a defective local resistance in the absence of any acquired immunity. Another factor may be the heightened virulence of the organism in its passage through several hosts, for the baby is usually the last member of the household to contract a catarrhal infection. It is most often seen in children of the poorer classes whose lower immunity presumably depends on defective and injudicious feeding, confined living space and closer contact with infections. However, middle class children do not escape. No influenza A virus was recovered by the Medical Research Council workers during the 1940 epidemic, with the exception of 1 specimen brought back from the army in France. The main difference between the lesions observed at necropsy of 2 human cases and those in the experimental animals is the extent of the emphysema. Bronchial obstruction by plugs of mucus are of considerable clinical importance. The onset may be acute, with fever, rapid and labored breathing, cyanosis, severe cough and prostration. More often the child has for a day or two a slight fever, laryngeal cough and some gastrointestinal upset. A laryngeal cough together with soreness over the larynx, hoarseness and sometimes aphonia develop next. Dyspnea and stridor, due to laryngeal spasm, may be present at this stage. From this phase the child may pass suddenly to bronchiolitis. The bronchioles become plugged with exudate and the clinical picture is obstructive dyspnea. If death from obstructive dyspnea occurs, it does so on the second, third or fourth day. More often the fine rales give way to the coarse rales of an ordinary bronchitis when the acute phase is over, and this may persist for a few days. Recovery of patients with a severe infection with obstructive dyspnea depends on their being nursed in warm moist air, with an adequate oxygen supply. Alcohol is the best sedative for children and phenobarbital the second best. No other sedative than alcohol should be used for children with acute bronchiolitis, for if the sedatives depress their respiratory excursions and their coughs are alleviated they die: any derivative of opium may bring a sleep which is final. In the treatment of acute bronchiolitis the four factors which demand separate consideration are the infection, the obstructive dyspnea, the cyanosis and the collapse, and consequently sulfapyridine, steam, oxygen and bronchoscopic aspiration (in the hands of the expert) may be life saving.

Lancet, London

1:99-130 (Jan. 25) 1941

- Diagnosis and Treatment of Secondary Shock: Study of Twenty-Four Cases. A. Kekwick, H. L. Marriott, W. d'A. Maycock and L. E. H. Whitby.—p. 99.
*Sulfathiazole in Cerebrospinal Fever. H. S. Banks.—p. 104.
Treatment of War Neurosis. G. Debenham, D. Hill, W. Sargent and E. Slater.—p. 107.
A Pneumococcus Which Required Carbon Dioxide for Its Growth. A. Fleming.—p. 110.

Sulfathiazole in Epidemic Meningitis.—Banks states that in America there is a disposition to view with disfavor the employment of sulfathiazole in meningitis because it achieves only a low concentration in the cerebrospinal fluid. He cites Carey's statement that "it should not be used in meningitis, as its concentration in the spinal fluid reaches only from 10 to 30 per cent of that in other body fluids." He hopes to show, however, that this conclusion is contradicted, at least for meningococcal meningitis, by the success obtained in practice, although he admits that Carey's premises are substantially correct. He used sulfathiazole treatment in 96 cases, of which 17 were classified as mild, 50 as moderate, 26 as severe and 3 as very severe. In exactly a third (32 cases) there were petechial or purpuric rashes. The author followed the dosage scheme which he originally adopted for sulfanilamide and later for sulfapyridine in the treatment of meningococcal meningitis. The age group under 2 was given a daily dose of 3 Gm.; from 2 to 5 4.5 Gm.; from 5 to 10, 6 Gm.; from 10 to 15, 7.5 Gm., and over 15, 9 Gm. This scheme was maintained for an initial period of two to three days according to severity; then two thirds of the dose was given for two days and finally one third for a further two days. The period of administration is six to seven days, and the total amount of the drug given is from 40 to 50 Gm. for an adult. The drug is given every four hours during the initial period and thereafter every four or six hours according to convenience. In 52 cases sulfathiazole was used after one or more preliminary doses of sulfapyridine, and in 44 cases sulfathiazole was used alone. The fatality rate in cases treated mainly or wholly with sulfathiazole was 2.1 per cent, which compares favorably with previous series treated with serum and sulfanilamide and with sulfanilamide or sulfapyridine alone or combined. Sulfathiazole, though not yet tested in epidemic conditions, has rapidly cured some extremely acute cases. The evidence so far suggests that it is at least equal in potency to sulfapyridine in meningococcal disease. There is evidence that with adequate dosage bacteriostasis is complete and phagocytosis advanced within twelve to twenty-four hours. Concentration in the cerebrospinal fluid varies from about 15 to 40 per cent of that in the blood and rarely is greater than 1.5 mg. per hundred cubic centimeters even on high dosage. The comparative rarity of nausea, vomiting and dehydration, and the absence of depression and mental confusion, make the treatment with sulfathiazole more pleasant and the management of the case easier than with sulfapyridine. Other toxic effects are also rare. High dosage is well tolerated. One or two intravenous injections of the 5 per cent sodium solution are recommended in all severe cases and when vomiting persists.

Medical Journal of Australia, Sydney

1:97-128 (Jan. 25) 1941

- Chemical Warfare. I. Maxwell.—p. 97.
*Some Observations on Biochemical Changes Associated with Hemorrhage from Stomach and Duodenum. Marjorie Bick and I. J. Wood.—p. 104.

Biochemical Changes Associated with Gastric and Duodenal Hemorrhage.—Bick and Wood determined the biochemical changes following massive gastric and duodenal hemorrhage. The studies were of a detailed nature of 8 patients and 2 normal control subjects (for three days) and occasional of 5 other patients. The detailed study included the pulse rate, the blood pressure, the hemoglobin value, the blood urea, sugar and chloride levels, the plasma protein content, the serum calcium content and the urinary volume, chloride, dextrose, urea and calcium contents. Observations were also made of the calory intake and on the effects of the intravenous infusion of blood and dextrose saline solution. The blood pressure was usually low after a hemorrhage but rose slowly

after bleeding had ceased. The rise was hastened by blood transfusion. The hemoglobin value was low in all cases, falling both during and immediately after a hemorrhage. It was a valuable guide to the patient's progress. The plasma protein content was lowered, but usually only to a minor degree. The blood urea content was elevated in all cases and appeared to be a good index of the patient's general condition. It was highest when the patient was not only exsanguinated but drowsy, thirsty and dehydrated. The blood chloride content was always low, and it was associated with a pronounced diminution of chloride in the urine. The liberal administration of chloride orally, rectally or intravenously appeared to benefit the patient. Immediately after a massive hematemesis the urinary output was usually diminished; but it rapidly improved after the liberal administration of fluid. To maintain a satisfactory positive fluid balance, intravenous injection of blood or dextrose-saline solution was sometimes necessary. It was often difficult to have patients take an adequate diet; fluids, especially plain cold water, were taken more eagerly. Acidosis, as shown by a diminished alkali reserve, was frequent. The serum calcium content was usually within normal limits. Transfusion of citrated blood elevated the blood pressure and hemoglobin percentage and slightly the plasma chloride and protein levels. The blood urea and serum calcium levels tended to fall. Dextrose-saline solution intravenously increased the plasma chloride content and the urinary output of chloride. The available methods of clinical biochemical analysis were modified so that the numerous determinations could be carried out on the smallest convenient specimen of blood. The studies uphold the contention that patients who have recently had profuse gastric or duodenal hemorrhage are suffering not only from anemia but also from depleted blood volume, starvation, dehydration, chloride and protein deficiency, uremia and acidosis. The object of treatment should therefore attempt to arrest hemorrhage and minimize the likelihood of further bleeding and to forestall any further depletion and to correct that which exists. Should hemorrhage recur in spite of blood transfusions, surgical intervention may give the patient the only chance of survival. The dangers of surgical arrest of hemorrhage are becoming less formidable now that massive blood transfusion is plausible and other restorative measures are available.

Practitioner, London

146:65-128 (Feb.) 1941

- Significance of High Blood Pressure and Its Complications. G. W. Pickering.—p. 65.
 Management of a Case of High Blood Pressure (Essential Hypertension). H. W. Jones.—p. 72.
 Hypotension. H. J. Starling.—p. 77.
 Measurement of Arterial Blood Pressure, with Special Reference to Life Assurance Examinations. K. S. Smith.—p. 86.
 Prevention and Treatment of Affections Occurring in Magnesium Industry. N. Hypher.—p. 92.
 Treatment of Peptic Ulcer in Wartime. N. C. Tanner and J. Jens.—p. 100.
 Some Observations on Treatment of Acute Staphylococcal Infections with Sulfathiazole. E. C. B. Butler.—p. 106.
 *Modern Therapeutics: XIX. Use of Vitamins in Treatment. II. M. Sinclair.—p. 109.

Vitamins in Treatment.—Sinclair points out not only that vitamins cure certain deficiency diseases but that often slight deficiencies cause many signs and symptoms, often difficult to diagnose, and produce ill health that can be discovered to be related to lack of vitamins only by employing laboratory methods of diagnosis. Such subclinical deficiencies have been shown to be common even in times of peace and are likely to become more common as war progresses. The practitioner now has to be alert to detect mild deficiency. Vitamin deficiencies are seldom single, and to treat a case of multiple deficiency with a pure vitamin is bad therapy. It is important to bear in mind the causes of vitamin deficiencies. A person may partake of a diet that appears well balanced; but the green vegetables may be boiled, perhaps in a copper utensil or with soda, and the water which contains the little vitamin that was not destroyed is thrown away; consequently a deficiency of water soluble vitamins, particularly B₁ and C, may result. The person may have achlorhydria or take alkalis and thereby destroy certain vitamins, or diarrhea may prevent their absorption. Therefore the cause of the deficiency must be determined and then corrected.

Presse Médicale, Paris

48:1041-1064 (Dec. 18-21) 1940

- *Effect of Ephedrine and Epinephrine in Acute Pancreatitis. P. Jacquet, S. Thieffry and G. de Chirac.—p. 1041.
 Treatment of Urgency of Pulmonary Perforations Complicating Artificial Pneumothorax. J. Rolland and N. Tsoutis.—p. 1042.
 Experimental Epilepsy. J. Asaad.—p. 1043.
 Place of Hemorrhagic Colorectitis in General Pathology. H. Maschas and H. Mollard.—p. 1047.

Ephedrine and Epinephrine in Acute Pancreatitis.

Jacquet and his associates found that massive doses of ephedrine, sufficiently long continued, not only gave relief from pain and shock of acute pancreatitis but cured as well in cases in which surgical intervention was not resorted to because of complications. In 1 case in which the drug therapy was effective hemorrhagic pleuritis developed within forty-eight hours. Morphine was unavailing. Ephedrine was then administered in two daily doses of 0.04 Gm. each. This at once assuaged pain, shock and pleurisy. However, when the dose was reduced to 0.02 Gm., pain recurred. This happened several times. The original heavy dose was then restored and retained until the patient's condition seemed to warrant diminution of the dose. Altogether 0.94 Gm. was given in the course of twenty-five days. The patient recovered and was well when seen a year later. In 2 other cases ephedrine was likewise able to still pain and control shock, but when recovery was delayed surgical intervention disclosed necrotized tissue in a half liter of blood-colored fluid in the 1 and a hemorrhagic exudate of the peritoneum in the other. According to the authors, dosage with ephedrine must be large, sustained for several days and given parenterally in acute pancreatitis. No intolerance to the drug was observed. The authors report good results obtained by other investigators using epinephrine in acute pancreatitis.

Giornale di Clinica Medica, Parma

21:1357-1450 (Nov. 20) 1940. Partial Index

- Normal Heart in Course of Some Hemodynamic Tests. D. Mircoli and F. Milanti.—p. 1357.
 *Bone Marrow in Paget's Disease (Osteitis Deformans). F. Tronchetti.—p. 1392.

Bone Marrow in Paget's Disease (Osteitis Deformans).

—Tronchetti studied the peripheral and medullary blood of 3 patients with advanced Paget's osteitis deformans. The number of erythrocytes in the peripheral blood was normal or slightly increased. An active erythropoiesis with erythroblastic anaplasia and abundance of reticuloendothelial cells was found in the medullary blood. The type of alterations of the medullary blood did not correspond to that caused by the disease of bones, which are of a type of myeloid hypoplasia or atrophy. A review of the literature on experimental and clinical work concerning blood changes in several diencephalohypophysial disorders convinced him that the alterations seen in the medullary blood in Paget's disease are of diencephalic-hypophysial origin.

Deutsche medizinische Wochenschrift, Leipzig

66:1233-1260 (Nov. 8) 1940. Partial Index

- Prognosis of Pneumonia. G. Wiele.—p. 1233.
 Physiologic Disturbance of Ovarian Function During Pregnancy. H. Friedrich.—p. 1236.
 Immunization Against Diphtheria in Adults. G. Wildführ.—p. 1240.
 *New Aspects of Pathogenesis of Endometriosis. E. Philipp and H. Huber.—p. 1242.
 *Sudden Death. E. Jeckeln.—p. 1246.

Pathogenesis of Endometriosis.—According to Philipp and Huber, endometriosis develops either by continuous proliferation of the uterine mucosa or more frequently by implantation. In the majority of cases of abdominal endometriosis the origin of the implantation is the endometriosis of the interstitial portion of the tube; in the others the source is the uterine mucosa itself. The implantations of abdominal endometriosis make their way through the tube or they may utilize other available routes. Hematogenic spreading is theoretically possible. The authors on the basis of their investigations arrive at a unitary interpretation of endometriosis. They reject the theory of serosa epithelium in its original and modified form, as well as the assumption that every mesenchyma is capable of forming foci

of endometriosis. They believe that local formation of foci of endometriosis as the result of tissue differentiation is no longer tenable. Their own conception is similar to that of Sampson, who was first to recognize implantation of detached fragments of uterine mucosa as the cause of endometriosis. Sampson's theory met opposition because it erroneously presupposed that cast-off menstrual mucosa was the source. It is the living freshly built-up mucosa which is disseminated. The prerequisites in the majority of cases are the existence of endometriosis in the interstitial portion of the tube and a functioning ovary. Endometriosis does not develop before or after the period of ovarian function, except, perhaps, when ovarian hormones are administered. The importance of hormones in the development of implantation is demonstrated by the fact that they are frequently localized near the ovaries. A favorite location is the ovary itself, where so-called chocolate cysts develop. The authors were able to observe such cysts in various stages of development. They report three cases in which endometrial tissue was present in the corpus luteum. They emphasize that endometriosis owes its development to the special properties of the uterine mucosa: the capacity of the cytogenic stroma to grow into deeper layers and the ability of uterine mucosa to attach itself when carried outside the uterus. The route of spread plays a minor role, dissemination taking place most frequently by way of tubes into the abdominal cavity. Possibility of hematogenic dissemination has been established by microscopic studies. Perfusion of the tissues with ovarian hormones produces more favorable conditions for implantation.

Sudden Death.—On the basis of one hundred and twenty-three necropsies in cases of unexplained sudden death, Jeckeln states that more than two thirds were the result of a cardiac lesion, coronary sclerosis being most frequent. It was six times as frequent in men as in women. Acute infarct resulting from the occlusion of a branch of the coronary was present in only 3 cases to the extent sufficient to explain death, while in 3 others it was complicated by cardiac rupture. Late lesions due to impaired circulation of the myocardium existed in the majority of the cases. Explanation of sudden death becomes difficult when microscopic examination of the heart muscle fails to disclose notable changes. Severe coronary sclerosis and cardiac dilatation are usually found in such cases. The fact that death often followed a sudden exertion suggests that an acute coronary insufficiency developed from the discrepancy between the oxygen supplied to the myocardium and the suddenly increased oxygen demand. There exist cases with myocardial infiltration but without extensive coronary sclerosis. The author describes a case with changes in the coronary vessels, excessive filling of the stomach and changes in the region of the conduction system. Excessive filling of the stomach is frequently encountered in sudden death from heart disease. In some of the sudden cardiac deaths there exist more than one lesion, such as valvular lesions, excessive fat about the heart or cardiac calcifications. In 7 cases sudden death was the result of syphilitic aortitis. Among the 6 cases in which sudden death could be traced to a valvular defect, there were 5 with aortic stenosis and hypertrophy of the left ventricle. In another case death was caused by sudden cardiac decompensation in the presence of mitral stenosis and coronary sclerosis. Extracardiac lesions, particularly chronic disorders in the pulmonary circulation, may also cause sudden death. There were 10 cases of this type. Cardiac decompensation due to hypertension was the cause in 2. In 8 sudden death was the result of disease of the air passages. In 2 cases death was caused by rupture of the aorta, and in 1 by rupture of a dilated splenic artery. Only 3 cases of fatal apoplectic stroke were observed, 1 in a girl of 17 with nephrogenic hypertension. In 2 other young persons status epilepticus was the cause. Ruptured basal aneurysm was detected in 19 cases. The author studied 30 cases of sudden death in children, 6 being stillbirths. Fetal erythroblastosis was the cause of death in 1; in some of the others no cause could be found. Necropsies on 21 infants and young children who had died suddenly disclosed in 2 traumatic brain lesions sustained at birth, in others acute nutritional disturbances, infections, acute respiratory disorders and postdiphtheric cardiac lesions. In 1 boy aged 3 years and 9

months sudden death followed a mild cold; necropsy disclosed acute, suppurating phlegmon of the epiglottis with severe edematous swelling. The author observed this lesion in several children and regards it as a complication of influenzal infection of mucous membranes. Sudden death after slight gastrointestinal symptoms with headache in a boy of 7 proved to be the result of acute poliomyelitis.

Wiener klinische Wochenschrift, Vienna

53:885-906 (Nov. 1) 1940

Hallux Valgus. O. Stracker.—p. 885.

*Mineral Metabolism in Recklinghausen's Osteitis Fibrosa Cystica Generalisata Before and After Excision of Parathyroid Tumor, and Its Relation to Clinical Course of Disease. Lisbeth Reuss and D. Roller.—p. 889.

Thyroxine Therapy of Metasyphilitic Diseases. J. Lhotsky.—p. 894.

Abscess of Spinal Cord: Case. H. Lenz.—p. 899.

53:907-928 (Nov. 8) 1940. Partial Index

*Mineral Metabolism in Recklinghausen's Osteitis Fibrosa Cystica Generalisata Before and After Excision of Parathyroid Tumor, and Its Relation to Clinical Course of Disease. Lisbeth Reuss and D. Roller.—p. 912.

Action of Lactoflavin on Salt Metabolism. K.-H. Lindner.—p. 918.

Simplification of Evaluation in Determination of Basal Metabolism. W. Holzer.—p. 924.

Mineral Metabolism in Generalized Osteitis Fibrosa Cystica and Parathyroid Tumor.—According to Reuss and Roller, eleven years have elapsed between the suggestion for the removal of a parathyroid tumor in Recklinghausen's osteitis fibrosa and its performance. The operation seemed to have an extraordinary success. Later experience showed that the condition may recur and that nephrolithiasis may develop. The interest seems to have shifted from the pathologic-anatomic aspects of the disease to functional and physiologic features, in particular to the importance of mineral metabolism. The authors made careful studies of the mineral metabolism in a patient in order to detect the effect of the operation on the parathyroids. As early as four hours after the operation the reflexes and muscular irritability were greatly increased. On the day after the operation slight touch elicited muscular spasm in some groups of muscles. In contrast to this increased irritability, the patient slept almost constantly. Postoperative manifestations in their case suggest that either a second parathyroid tumor has formed or that two such tumors existed at the time of operation. The latter assumption does not appear plausible in view of the enormous postoperative decrease in the calcium content. They also consider the possibility of a diffuse hyperplasia of the parathyroids. Results in the case suggest that De Forest's method of medication with irradiated ergosterol is effective only if corresponding quantities of calcium are added. Excessive amounts of irradiated ergosterol might be responsible for the complaints following its administration. Comparison of the clinical manifestations with the results of metabolic studies proved of diagnostic and prognostic value. The authors feel that investigation of the calcium and phosphorus metabolisms will permit of an estimation of the further course of the disease as early as a few days after the operation. The detection and removal of a parathyroid tumor do not signify that the disease has been terminated.

Zeitschrift für Tuberkulose, Leipzig

85:193-320 (Nov.) 1940

Suggestions for Method of Standardization for Tuberculin and an Anti-tuberculosis Vaccine. G. Petragiani.—p. 193.

Sequels of Benign Miliary Tuberculosis of Lung. G. Simon.—p. 200.

*Artificial Production of Adhesions Between Partially Free Pleural Clefts Before Application of Suction Drainage. M. Flügge.—p. 215.

Serologic Studies on Human and Bovine Tubercle Bacilli. H. Harpøth.—p. 221.

Influence of Angina or Active Pulmonary Tuberculosis. G. Knuth.—p. 235.

Effects of Chronic Anoxemia on Heart and Circulation of Patients with Pulmonary Tuberculosis. H. C. Landen.—p. 239.

Postpleuritic Tuberculosis: Connection Between Exudative Pleurisy and Pulmonary Tuberculosis. T. Carellas.—p. 245.

Artificial Production of Adhesions Before Suction Drainage.—The first requirement for Monaldi's method of suction drainage, according to Flügge, is that the obliteration of the pleural cavity in the region of the cavity will discharge into

the pleural space and produce empyema. Allowing the pneumothorax to disappear does not guarantee that the pneumothorax space is really closed. Adequate adhesion can be expected only if the pneumothorax subsides with the formation of an exudate. It is advisable to induce an exudate about the cavity whenever a free pleural space exists. At the sanatorium in Davos, injection of talcum into the pleural space has been used in 7 cases, in 5 of which it has since been possible to establish suction drainage. It is possible to produce pleurisy with from 0.5 to 2 cc. of talcum. The pleuritic pains which develop immediately, or a few hours after the introduction of the talcum, may be severe, but they generally subside within two or three days. The resulting exudate is sterile. Its spontaneous absorption is awaited, because the aim is formation of adhesions. Repeated attempts at pneumothorax in various places are important in order to exclude the presence of free pleural spaces. Only in this manner will it be possible to detect small recesses of sacculated pneumothorax and avoid the formation of empyema. The introduction of talcum may have to be repeated, because one insufflation may produce only a local reaction. The author obtained an exudate in 6 of his 7 patients. In one instance dry pleurisy resulted, but this was sufficient to counteract the small residual pneumothorax and suction drainage could be instituted eleven days later.

Tokyo Igakkwai Zassi, Tokyo

54:929-1028 (Dec.) 1940. Partial Index

*Comparative Studies on the Effect of Levulose and Dextrose on Insulin Hypoglycemia. M. Nakayama and M. Murakami.—p. 952.

Levulose and Dextrose in Insulin Hypoglycemia.—Nakayama and Murakami induced hypoglycemia in 1 diabetic and 8 nondiabetic patients and tested the recovery effects of levulose and dextrose administered by mouth in doses of from 30 to 50 Gm. Within thirty minutes after the administration an improvement of subjective symptoms, when levulose was given, appeared only in 2 instances, while dextrose produced the same result in all cases. In the 2 patients who responded favorably to levulose administration, the evidence of improvement appeared more slowly and the normalizing effect on the pulse rate and blood pressure was less distinct than when dextrose was given. Similar observations were also made by intravenous injection of 40 cc. of a 50 per cent solution of either levulose or dextrose. Clinical improvement was noted only in one instance after the injection of levulose, while with dextrose injection the recovery from symptoms of hypoglycemia was effected within the expected time in all cases (4 diabetic and 6 nondiabetic patients). From these observations the authors recommend the use of dextrose in the treatment of insulin hypoglycemia.

Klinicheskaya Meditsina, Moscow

17:1-140 (No. 12) 1939. Partial Index

Treatment of Diabetes with Hypoglycemic Doses. V. G. Baranov.—p. 11.
Diathermy in Internal Diseases. V. A. Valdman.—p. 22.
Vitamin Therapy of Infected Wounds. N. V. Antoshina.—p. 37.
Allergic Factor in Pathogenesis of Acute Hepatitis. E. Ya. Martynova.—p. 55.

Significance of Indirect Symptoms for Roentgen Diagnosis of Gastric Ulcer. B. A. Tsybul'skiy and S. A. Sviridov.—p. 97.

*Selective Diet for Bleeding Ulcer Patients. I. O. Neymark.—p. 104.

Selective Diet for Bleeding Ulcer Patients.—Neymark reports observations on 130 patients, 100 of whom entered the hospital after the hemorrhage while 30 entered in the course of bleeding. All the patients were given a liberal diet advocated by Meulengracht and consisting of albumin 90 Gm., fat 110 Gm. and carbohydrates 420 Gm. The effect of hemorrhage on the ulcer symptoms was inconstant and varied. Pain disappeared shortly after the hemorrhage in 23 out of 100, it was considerably lessened in 36, while in 6 the hemorrhage was not preceded by pain. The niche in the roentgenogram was demonstrable in the great majority of the cases in which symptom pain persisted after the hemorrhage. The author believes that the favorable effect of hemorrhage on the ulcer is due to the reduction of the inflammatory state, of the gastritis or duodenitis in the vicinity of ulcer brought about by the diminution in the amount of the

edema, vascular hyperemia and lowering of the tone of the muscularis mucosae. Persistence of pain after hemorrhage suggests the existence of a callous ulcer, marked cellular infiltration of the tissues and fibrous changes in the mucosa. The disappearance of pain after hemorrhage is not the sole criterion of the future behavior of the ulcer. Pathologic changes in the vicinity of the ulcer are not always paralleled by those within the bed of the ulcer. While the edema and induration about the ulcer may diminish, the destructive process may continue in the bed of the ulcer. Such cases are characterized by a progressive fall in the blood hemoglobin and a tendency to gross bleeding at brief intervals despite a liberal diet. These cases are not amenable to conservative treatment and should be referred for surgical intervention. The question of feeding a bleeding patient must be determined on the basis of the clinical picture. Early liberal diet, as advocated by Meulengracht, is indicated in cases in which symptom pain disappears shortly after the hemorrhage. When pain persists, the diet must be more sparing and the food must be liquid or mushy. Repeated blood transfusions and parenteral administration of vitamin C are indicated. In only 3 of the author's 130 cases was operative intervention necessary. He concludes that the diversified diet cannot be applied in all cases. Even among the favorably reacting cases there are a few in which the liberal diet provokes pain. A more restricted diet is required in such cases. The author also feels that, contrary to the opinion of Meulengracht, a liberal diet is not applicable during the first twenty-four hours of hemorrhage.

Acta Ophthalmologica, Copenhagen

18:224-404 (Nos. 3-4) 1940. Partial Index

*A Family with Total Color Blindness. E. Holm and C. V. Lodberg.—p. 224.

Distribution of Dextrose in Nonvascularized Tissues of Eye. R. Weekers.—p. 259.

Occurrence of Mast Cells in Human Eye During Various Pathologic Conditions. H. Holmgren and A. Stenbeck.—p. 271.

Problem of Atropine in Glaucoma. S. Werner.—p. 295.

Melanosis Bulbi with Melanosarcoma. O. Carlberg.—p. 301.

Sex Incidence of Cataract, with Special Reference to Its Exogenous Causes. P. W. Salit.—p. 309.

Weil-Felix Seroreaction in Trachoma. K. Raski.—p. 321.

Eye Symptoms in Malignant Tumors of Rhinopharynx. E. Godtfredsen.—p. 336.

Traumatic Edema of Cornea. P. Brændstrup.—p. 355.

Total Color Blindness.—According to Holm and Lodberg, total color blindness, which is designated also as monochromasia or achromatopsia, is only one of a group of symptoms, photophobia, nystagmus and considerable amblyopia being associated with it. After reviewing the present status of knowledge on total color blindness and some of the literature, particularly on the heredity, the authors report their own observations among the population of a small Danish island. The inhabitants of this island numbered about 1,600. There were 23 cases of color blindness on this island. The authors examined 18 and obtained as complete and reliable genealogical tables as possible. The conditions on the island favored the manifestation of recessive disease, because the inhabitants rarely left their native soil and a matrimonial union between an islander and a foreigner was frowned on. The result was close relationship among the inhabitants. Although ordinarily color blindness is more frequent in men than in women, among the 23 subjects under consideration there were only 9 men and 14 women. In four groups with known consanguinity there were 5 color blind to 10 normal individuals and in eight groups without known consanguinity there were 17 color blind and 34 normal persons. Thus the ratio was exactly the same, namely 1:2 instead of the theoretical ratio of 1:3. Consequently there is a "great recessive" surplus. The accumulation of cases is easily explained by the special conditions prevailing in the island; it does not detract from the fact that the disorder is scattered and of more or less the same incidence in most countries. This might suggest that the anomaly occurs here and there by mutation of a variable gene, after which it is recessively transmissible. This theory is not refuted by the fact that the cases observed all over the world are much alike, because experimental investigations show that the same mutations do recur.

Book Notices

Accident-and-Health Insurance. By Edwin J. Faulkner, A.B., M.B.A., President, Woodmen Accident Company and Affiliated Companies. Cloth. Price, \$4. Pp. 366. New York & London: McGraw-Hill Book Company, Inc., 1940.

All who have tried to apply the insurance principle to medical care have felt the need of a realistic and comprehensive treatment of the subjects discussed in this work. Hasty experimenting in the disability field brought heavy losses to New York life insurance companies. Incalculable elements are almost innumerable. Definitions of accident and disease are still many and conflicting. "Benefits provided to reimburse the insured for the costs of hospital and medical care represent the greatest variety of practice." The "moral hazard" multiplies these uncertainties. "No single factor equals it in importance in determining the acceptability of a risk." It varies according to age, sex, race, location and occupation, and it changes with the introduction of insurance and other social changes. Rates have so far been made largely by trial and error, and as a result loss ratios have been almost catastrophic. Tables of premiums and indemnities have now been calculated to allow for nearly all these uncertainties, and these tables are apt to surprise some of those who are blithely starting new plans without proper study. "High expenses are characteristic of the disability business." Forty-seven and one-half cents of the health insurance dollar is expected to be expended on costs other than indemnity. These statements tend to blast the optimism of those who look on health insurance as a means of reducing medical costs. Non-profit group hospitalization, state medical society medical service plans and commercial company proposals are all analyzed. Every one who is interested in trying to establish any type of prepayment plan for medical service will find this work indispensable.

Report of the President and of the Treasurer, Carnegie Corporation of New York, for the Year Ended September 30, 1940. Paper. Pp. 183, with 1 illustration. New York, [n. d.].

Pensions for teachers have long been associated in the public mind with the name of Andrew Carnegie, since it was he who first provided the means for such pensions on anything like a national scale. It will be noted with interest that the trustees of the corporation on March 16, 1939 approved and authorized a policy which, humanly speaking, will insure payment in full to the three thousand, four hundred and fifty persons now receiving pensions from the Carnegie Foundation or on its list of pensionables. President Keppel discusses the needs of the Carnegie Institution of Washington, dental medicine, general and higher education, adult education and the interest of the corporation in libraries and in the arts. Most significant, however, are his concluding observations on the relationships of philanthropic foundations to education. He says (page 29, lines 4-11) "... education requires public approval and, if possible, public understanding as well." But although growing public interest is a favorable factor, the author feels that much remains to be done to clear the public mind as to what the public itself wants from education, and what it can reasonably expect, and, by the same token, to clarify the teachers' ideas as to what the processes of formal education can and cannot do to affect the social order. He pleads for a wider and fuller understanding, on the part of students, teachers and the public, of the enormous range in the native abilities of different individuals and in the qualitative differences in the grasps of human beings who constitute our universities and colleges. He continues: "We recognize in our system of professional and vocational training the relationship between what we teach our students and what they must later do to make a living, but we are not nearly so clear as to the relationship between the durable general knowledge and the attitudes which the students acquire throughout their education, and the broad realities and the urgent needs of the adult life they must enter." Summing up, President Keppel says: "In the face of falling income and increasing calls from every source, will foundations be able to find the things to do upon which their particular assets can be brought to bear most

effectively? While they have their limitations, their natural advantages are many. They can move quickly. They can continue their support past the stage of novelty and publicity appeal. They can act with the long view in sight rather than under the pressure of the moment. They can call upon competent and disinterested advice. They can recognize and encourage excellence and the promise of influence and leadership in the individual, the group or the institution. They can find situations which it is to the general interest, but alas nobody's particular business, to clarify by research and experimental demonstrations. It need scarcely be added that no foundation has ever availed itself of these natural advantages to the full. It is equally true, however, that certain of them in the light of their own experience and of a wider public understanding of their responsibilities are each year giving greater weight to these matters in their decisions."

Medical Manual of Chemical Warfare, 1940 [including] "An Atlas of Gas Poisoning." Great Britain War Office. Paper. Price, 75 cents; 2s. 6d.; "Atlas," separately, 1s. Pp. 104; "Atlas," pp. 15, with 10 plates. New York: British Library of Information; London: His Majesty's Stationery Office, 1940.

This manual describes the physical and chemical nature of certain poison gases, their uses in war, the symptoms caused by them, their recognition and the treatment of the lesions produced. The gases are grouped into vesicants, lethal gases, harassing gases and accidental gases. Of the vesicant or blister gases the mustard gas was the most effective chemical agent used in the war of 1914-1918. The fact that there is no immediate irritation of the skin on contact with the liquid or of the eyes or the respiratory tract constitutes one of the more serious dangers of this gas, as contamination may be unsuspected. Signs and symptoms do not begin to appear until after the lapse of some hours, depending on the concentration of the vapor in the atmosphere and the duration of exposure. Contamination of the eye by a spray or a splash represents one of the gravest dangers in the presence of liquid mustard gas, as permanent damage will result. The major protective measure against mustard gas vapor is the gas mask. In the case of contamination with liquid mustard gas, cleansing of the skin may be effected by a bleach treatment utilizing an ointment or a paste containing calcium chloride and by repeated swabbing with gasoline, alcohol, kerosene, carbon tetrachloride or some other solvent of liquid mustard gas. Of the lethal gases phosgene is the most important and the most toxic. It produces edema of the lungs with rapid and shallow breathing and a progressive development of a bluish red cyanosis, which may deepen to intense violet. The treatment consists of rest, warmth, venesection and oxygen. Most drugs were found to be of no special value. A special chapter is devoted to the symptoms and treatment of gas poisoning not used for offensive purposes but sometimes encountered under war conditions. Such poisons are carbon monoxide, nitrous oxide fumes and screening smokes. The manual gives specific information as to the methods of recognizing poisoning with various gases and the immediate treatment.

The Anatomy of the Eye and Orbit Including the Central Connections, Development, and Comparative Anatomy of the Visual Apparatus. By Eugene Wolff, M.B., B.S., F.R.C.S., Ophthalmic Surgeon, Royal Northern Hospital, London. Second edition. Cloth. Price, \$7.50. Pp. 374, with 242 illustrations. Philadelphia: Blakiston Company, 1940.

This concise book on anatomy of the eye, its adnexa and the orbit is an improvement over the first edition, in that not only have sixty-four pages and sixty new illustrations been added but the sections on the visual pathway and its blood supply have been rewritten. Several colored plates, among which are microscopic sections of the retina and optic nerve, have been added. The section on the choroid and retina have been greatly improved, especially the former. The chapters on the bony orbit, embryology and comparative anatomy remain unchanged. In each chapter the author discusses, under the title of practical considerations, the clinical significance of alterations in the various anatomic structures. The final chapters on embryology, postnatal growth and comparative anatomy give a brief adequate survey of the development and growth of the globes and the anatomy of the eyes of lower animals. There is a brief account of the anatomy of the anterior segment as seen with the slit

lamp microscope. The work is recommended as a textbook for graduate study in ophthalmology, though for investigators it cannot replace such textbooks as Whitnall's "Anatomy of the Orbit" or Salzmann's "The Anatomy and Histology of the Human Eyeball."

Vitamins: What They Are and How They Can Benefit You. By Henry Borsook, Ph.D., M.B., Professor of Biochemistry, California Institute of Technology, Pasadena. Cloth. Price, \$2. Pp. 193. New York: Viking Press, 1940.

In the foreword to this volume the author states that his reason for writing the book was to present knowledge of the vitamins "in edible form" and without technical jargon. The author has accomplished this purpose in an exceptionally lucid, informative style. For the physician who is interested in "a Cook's tour" of the vitamin field, as it were, this book is recommended. Tables in the appendix show the adult and child requirements of the various vitamins and the vitamin A, B₁, C and B₂ content of uncooked common foods in international units for vitamins A and B₁ and milligrams for vitamin C and B₂ per common measure or ounce. The material contained in the twelve chapters is conceived and handled in such a manner that the reader obtains a considerable amount of fairly accurate information on the vitamins. There are, however, several misstatements which should be corrected in future editions. For example, on page 116 the discussion of vitamin D milk and the statement "But for children even a daily quart of 'vitamin D' milk will not supply the desirable amount of vitamin" are not in accord with recent evidence. The Council on Foods and Nutrition, after a review of recent available evidence, reaffirmed (THE JOURNAL, February 1, p. 413) its previous conclusion that "For children between infancy and adolescence a daily allowance of 750 to 1,000 cc. (about 1½ to 2 pints) of milk containing from 300 to 400 U. S. P. units of vitamin D permits ample retention of calcium and phosphorus." On page 125 the discussion of vitamin E, which the author implies should be called "the anti-miscarriage vitamin," is also far more ambitious than the evidence warrants. In a report sponsored by the Council on Pharmacy and Chemistry (THE JOURNAL, June 1, 1940, p. 2214) it was stated that the claim that vitamin E is of value in the prevention of habitual abortion cannot be accepted because of lack of convincing clinical evidence. Until this evidence is forthcoming, it is misleading to imply that vitamin E prevents miscarriage.

Biological Stains: A Handbook on the Nature and Uses of the Dyes Employed in the Biological Laboratory. By H. J. Conn, Chairman, Commission on Standardization of Biological Stains. Prepared with the collaboration of J. A. Ambler et al. Revised with the assistance of J. T. Scanlan, Anis P. Bradshaw and Mary A. Darrow and Members of the Executive Committee of the Commission. Fourth edition. Cloth. Price, \$3.40. Pp. 308, with 5 illustrations. Geneva, N. Y.: Blotek Publications, 1940.

As chairman of the Commission on the Standardization of Biological Stains, on which there are representatives of the American Medical Association and other organizations, Dr. Conn can speak authoritatively about dyes. The assistance of J. T. Scanlan, Anis P. Bradshaw, Mary A. Darrow and members of the executive committee of the commission is acknowledged. This edition marks a definite advance achieved by helpful cooperation of the commission with the American Pharmaceutical Association and the Society of American Bacteriologists. The formulas given in it, sponsored by the commission, in the National Formulary published by the association, and in the Manual of Methods for Pure Culture Study of Bacteria published by the society, have been compared and studied critically with the object of supplying identical formulas in all three places. Much confusion will thereby be avoided. This edition, like others before it, is accurate, concise and to the point. Useful information is not hidden by a forest of words. Thirteen dyes not included in the third edition are described. The dyes are classified into eight groups instead of six, and two useful tables have been added as well as some selected references to the literature. Yet the increase in length over the previous edition amounts to only thirty-two pages, which is important, because this standard book will continue to be in demand by many workers in biologic and medical laboratories and will not be limited to libraries because of size and cost.

The Doctor Takes a Holiday: An Autobiographical Fragment. By Mary McKibbin-Harper, M.D. Cloth. Price, \$2.50. Pp. 340, with illustrations. Cedar Rapids: Torch Press, 1941.

This is an informal autobiographic fragment culled from a diary covering nearly two years of travel, another period of four months, and yet other visits in the Near East. The author went to London, Paris, through the Suez Canal, to Egypt, Palestine and India, to which country several chapters of the book are devoted; then to Malaya, China, Japan, Hawaii and San Francisco. She was interested especially in women doctors in these countries and through correspondence had arranged to see certain places and people, although this professional interest was not allowed to interfere with other joys of travel. She describes native customs, religions and superstitions as well as the more obvious and perhaps better known sights to the newcomer. The book is written with a sympathetic understanding of the native customs and environment in which these people live and in which the author was deeply interested.

A Surgeon Reflects. By James Thomas Nix. Cloth. Price, \$1.50. Pp. 115. University: Louisiana State University Press, 1940.

This is a series of informal essays by a doctor with thirty years' experience as a surgeon. Three years ago a tired heart impressed on him the uncertainty of life and the futility of constant overwork. Later he was miraculously saved when an airplane in which he was riding burned. A few months later a more serious illness overtook him, and since then he has spent two days a week in camp in the woods on the lower Mississippi and so finally has had time to reflect.

The second part of this small book comprises essays about the profession: your patients and you, the general practitioner, the doctor and the child, patients are always right, doctors and dentists, medical ethics. The first part comprises essays on subjects that concern almost everybody: hope, solitude, difficulties, calamity, friends, ambition, success, longevity, wives and mothers, death. The preface contains a letter from Dr. Rudolph Matas, formerly the author's teacher and chief. The foreword is by Dr. Morris Fishbein. The essays are short, interesting and well written.

Bacteriology in Neuropsychiatry: A Survey of Investigations Concerned with the Specific Role of Infectious and Immune Processes. By Nicholas Kopeloff, Ph.D., Research Bacteriologist, New York State Psychiatric Institute and Hospital, New York. Cloth. Price, \$4.50. Pp. 316. Springfield, Illinois, & Baltimore: Charles C. Thomas, 1941.

Rarely has there been less excuse for darkening the pages of a book than the contents of this monograph. Most of the book consists of a superficial summary of a little of the related literature. The discussion of the more common infectious diseases of the nervous system, such as syphilis, meningitis and brain abscess, is surprisingly inadequate whether regarded from a clinical, pathologic or bacteriologic point of view. The relationship of some other sections of the book to the nervous system is not established by the text. In chapters XXI, XXII, XXIII, XXIV, XXV, XXVI and XXVII, on focal infection as a possible etiologic agent (in the functional psychoses), auto-intoxication as a possible etiologic agent, tuberculous bacillæmia in schizophrenia, filtrable forms of the tubercle bacillus in schizophrenia, toxins in schizophrenia, bacteria toxins and allergens as possible etiologic agents in epilepsy, and special properties of the blood and serum of psychotic patients, a series of straw men are set up which the author finds no difficulty in knocking down. The book cannot be recommended.

Landmarks and Surface Markings of the Human Body. By L. Bathe Rawling, M.B., B.Ch., F.R.C.S., Consulting Surgeon to St. Bartholomew's Hospital, London. Eighth edition (new terminology). Cloth. Price, \$3. Pp. 98, with 36 illustrations. New York: Paul B. Hoeber, Inc., 1940.

This is a brief volume on topographic anatomy. The terminology employed is that of the British revision of the B.N.A. In the present times, when military surgery is becoming of increasing importance, the handiness of a brief, accurate, topographic anatomic reference work is apparent. It is of special value in reviewing the topographic anatomy of the extremities. The book has to its advantage a brevity and succinctness of description. It can be recommended as an excellent refresher in certain anatomic details.

Queries and Minor Notes

THE ANSWERS HERE PUBLISHED HAVE BEEN PREPARED BY COMPETENT AUTHORITIES. THEY DO NOT, HOWEVER, REPRESENT THE OPINIONS OF ANY OFFICIAL BODIES UNLESS SPECIFICALLY STATED IN THE REPLY. ANONYMOUS COMMUNICATIONS AND QUERIES ON POSTAL CARDS WILL NOT BE NOTICED. EVERY LETTER MUST CONTAIN THE WRITER'S NAME AND ADDRESS, BUT THESE WILL BE OMITTED ON REQUEST.

AORTIC REGURGITATION OF RHEUMATIC OR SYPHILITIC ORIGIN IN BUS DRIVER

To the Editor:—A white man aged 33, driver of a passenger bus, was recently referred for an opinion as to whether he should continue his usual occupation. He stated that he had rheumatic fever at 15. A positive Wassermann reaction, as a result of which he is being adequately treated, was found at age 31 on routine checkup by the company; no history of chancre or generalized rash was obtained. The history was otherwise irrelevant. He presented no evidence of definite cardiac enlargement either clinically or fluoroscopically. There was an aortic systolic murmur with an accentuated aortic second sound; there was a suspicion of a diastolic murmur in the second and third interspaces to the left of the sternum. The presence of these murmurs was confirmed later by sound tracings. A capillary pulse was visible under a glass slide placed on the everted lower lip; there was a rather suggestive Corrigan's pulse. Blood pressure was 138 systolic and 78 diastolic. There was no pulmonary congestion, enlargement of the liver or peripheral edema. The usual cardiac functional tests were normal. In other words, there was no clinical or laboratory evidence of a lack of circulatory efficiency. The other ordinary laboratory tests of the urine and blood were normal. An electrocardiogram showed normal sinus rhythm, left axis deviation, ST intervals slightly elevated in leads 2 and 3, T waves slightly inverted in lead 3 and CF-4 negative. Based on these findings, what would be your opinion? Should this man continue driving the bus?
M.D., Pennsylvania.

ANSWER:—In view of the possibility that the patient has syphilitic aortitis behind his slight aortic regurgitation, it is wiser for him to cease driving the bus. Syphilitic aortitis is prone to increase rather rapidly in degree with increasing aortic regurgitation in the course of a few months to a few years and congestive failure may then ensue. More important, however, if syphilitic aortitis is present, is the hazard of sudden death, largely because of the involvement of the mouths of the coronary arteries.

However, on account of the age, the rheumatic history and the slight degree of aortic regurgitation, there may be a rheumatic rather than syphilitic etiology with valvular insufficiency. Slight degrees of chronic rheumatic heart disease are compatible with full activity and long life.

Observation of this case during the next few years will be of vital importance in differentiating between the two etiologic factors. If at the end of a few years there has been no progress in the condition, a rheumatic causation is almost certainly the correct diagnosis. However, especially because of the importance of protecting the public from any unnecessary hazard, it is now wiser to change the occupation of this man to one that will not endanger the public if a cardiovascular accident should occur.

WASSERMANN-FAST SYPHILIS

To the Editor:—For the past two years I have had a woman aged 23 under almost continuous treatment for syphilis. She came to me two months after exposure, and about one month after she had had symptoms of secondary syphilis. She has had alternating courses of ten injections each of nearsphenamine and bismuth subsalicylate in oil totaling fifty of the former and forty of the latter, given at weekly intervals. At no time has her blood serum reacted negatively, although six months ago a report of 2 plus was received. At present it is still strongly positive. The girl is in better health than she has been at any time for the past two years and presents no signs or symptoms of active infection. Apparently her blood is Wassermann fast, although I believe her to be cured. Please advise as to further treatment and marriage.
M.D., Ohio.

ANSWER:—As a rule a patient responds well to such treatment as outlined when in the secondary stage of syphilis. There must be some explanation for the Wassermann fastness. Is it certain that there is not an involvement of the central nervous system? A lumbar puncture should be made at once, for there is the possibility that that is the explanation for the patient's not reacting more satisfactorily to treatment.

It may be suggested if the lumbar puncture gives negative results that she have another year of continuous treatment, with mapharsen for an arsenical, and that she be given injections of mapharsen, each 40 mg., once in five days for a series of twelve treatments. For the alternate injections bismuth subsalicylate may be used for a course of ten injections. At the end of that time, even if the serum is negative for syphilis, in the succeed-

ing two years she might be given two courses of bismuth a year, and then the positive serologic reaction could be ignored. The chances are that the serologic reaction will gradually change to negative, i. e. provided careful physical examinations, including examination of the cardiovascular system, are negative.

SERUM SICKNESS

To the Editor:—I understand that it is a customary practice in cases of badly lacerated wounds contaminated with soil to give repeated prophylactic injections of tetanus antitoxin every three to seven days until the danger of the development of tetanus is over. Will the repeated injections of horse serum at short intervals, in the average case, keep the patient in a state of constant desensitization to the serum until the normal incubation period of serum sickness has elapsed after the last injection? In other words, can one be sure that this procedure will prevent the onset of serum sickness, with its associated generalized sensitivity, indefinitely so long as these injections are continued at intervals shorter than the incubation time of serum sickness?

T. F. Judefind, M.D., Loma Linda, Calif.

ANSWER:—The incubation period of serum sickness varies from six to twelve days; it may be longer without any known reason; it may be shorter in persons who have previously received injections of normal or immune horse serum, and occasionally without such history. The shorter incubation periods vary from minutes (immediate reaction) to hours or days (accelerated reaction). The length of the incubation period depends within certain limits on the intervals between consecutive injections of serum. Administration of prophylactic injections of tetanus antitoxin at three to seven day intervals will obviously not affect the onset of immediate or accelerated serum reactions with incubation periods shorter than the intervals mentioned. In the case of serum sickness with an incubation period longer than one week, injections given at shorter intervals may in some instances prolong the incubation period by producing a temporary refractory condition, but serum sickness follows eventually.

The procedure as outlined in the query will not prevent the onset of serum sickness indefinitely. Increasing the quantities of injected serum by means of repeated injections may have a tendency to increase the incidence and the severity of serum reactions.

PERTUSSIS VACCINE FOR ASTHMA

To the Editor:—Would you send me any information you may have on the treatment of bronchial asthma in children with whooping cough serum?
J. R. Heafey, M.D., South Norwalk, Conn.

ANSWER:—The only type of case in which there may be reason for considering pertussis vaccine for the treatment of asthma is one in which the patient dates the onset of his asthma to shortly after or during an attack of whooping cough and in which no other adequate cause can be found. Probably about 10 per cent of children relate their first attack of asthma to an infection of the upper part of the respiratory tract. Among such infections, whooping cough is one of the most frequently blamed. In the majority of cases the attack of pertussis is proved to be the precipitating rather than the primary cause of the attack. Most of such children are sensitive to other allergens which are the primary causes of the trouble. In a few cases in which no cause could be determined other than the chronic bronchitis following whooping cough, treatment with pertussis vaccine was given, starting with minute doses and progressively increasing to 500,000 organisms as a final dose, but no beneficial results could be observed. This is in line with the experience of most physicians in the use of vaccine for asthma.

STERILIZATION OF CLINICAL THERMOMETERS

To the Editor:—What type of antiseptic fluid should be used for individual bedside oral thermometers? This is a tuberculosis institution, and we have started keeping the thermometers in small test tubes strapped to the head of the bed. We are wondering if there is a satisfactory solution besides alcohol.
Richard M. Burke, M.D., Clinton, Okla.

ANSWER:—In suggesting a satisfactory fluid for the disinfection of clinical thermometers, a number of things have to be considered. If left at the bedside, the fluid should not be potable, should not be rapidly exhausted by saturation with organic matter or by evaporation, should not be toxic and should not stain or injure the fingers, bed linen or clothing.

For thermometers used by mouth, a 50 per cent solution of isopropyl alcohol is suggested. By it the usual oral flora are killed in less than five minutes. Data regarding the killing of

the tubercle bacillus are not available partly because of the lack of a suitable recovery medium for this organism.

Rectal thermometers present more difficulty. When contaminated by feces they are not sterilized in a reasonably short time by the alcohols, mercurials or other disinfectants safely left at the bedside. It is recommended that after use they be taken to the laboratory or preparation room, where they may be both cleaned and sterilized by soaking for several hours in the potassium dichromate-sulfuric acid mixture commonly used for cleaning chemical glassware. Because of improved methods of testing, confidence in formerly accepted methods of "chemical sterilization" has been destroyed. More research is needed.

ANOSMIA FOLLOWING CEREBRAL INJURY

To the Editor:—A man aged 34 was involved in an automobile accident six weeks ago and as a result of a blow on the head was rendered unconscious for about two hours. On recovering consciousness he suffered constant throbbing headaches for about sixteen days. Vision was blurred in all fields and there was complete absence of the senses of taste and smell. Reflexes were normal; the blood pressure was 120 systolic and 78 diastolic; the heart, lungs and general physical condition were within normal limits. A roentgenogram of the skull and the cervical vertebrae showed no fractures. Lumbar puncture showed an initial pressure of 160, and the fluid was clear. With rest in bed, a diminished intake of fluids and dark glasses were employed, the headaches disappeared and the ocular symptoms all vanished except for a slight blurring in the straight ahead fields. The optic nerve shows no secondary atrophy. However, there has been no sign of returning taste or smell. I would appreciate your opinion as to whether you think these senses will return and also if there is any thing which can be done to hasten their reappearance.

William G. Thompson, M.D., Andover, Mass.

ANSWER.—No statement is made as to the date of the injury. When anosmia is the result of an injury as described, the return of the sense of smell rarely takes place. It is also probable that the loss of smell has to do with the seeming loss of taste. There is no satisfactory treatment for this loss of smell. Probably there was no hemorrhage pressing against the olfactory nerve inside the skull; otherwise blood would probably have been found in the spinal fluid. For that reason the injury to the olfactory nerve was probably at the exit of the nerve from the skull. Potassium iodide in moderate doses may be tried.

HAZARDS OF DEGREASING AGENT

To the Editor:—I will appreciate information regarding a cleaning solution, made by the Mechanical Process Company for cleansing refrigerator plates, called D'Oilene A. Can a patient have symptoms of chronic poisoning, such as nausea, vomiting, headache and general weakness, from handling this solution? What is the composition? M.D., Massachusetts.

ANSWER.—D'Oilene A, manufactured by the Mechanical Process Company of South Orange, N. J., consists chiefly of a chlorinated hydrocarbon similar to carbon tetrachloride. It is a widely used degreasing agent for metal parts and by no means is limited to the cleaning of refrigerator plates. The symptoms described probably represent the acute effects of materials such as D'Oilene A rather than chronic effects.

In acute poisoning, evidences of severe gastrointestinal irritation, hepatitis and possibly nephritis may arise. No work should be performed in vapors of this cleaning agent when the concentration exceeds 200 parts per million of air throughout the shift period, although 1,000 parts per million are not known to be dangerous for short exposures, such as one-half hour. Protection customarily is procured through the use of tanks with water jackets which condense the vapors at a level below the top of the tank. Otherwise, protection may be procured through the installation of appropriate exhaust systems.

IRRITATION OF SKIN FROM SUBSTANCES USED IN WELDING

To the Editor:—I am seeking information on the possibility of severe generalized dermatitis occurring in welders. Various references mention lead poisoning, respiratory disorders and diseases of the eye but nothing concerning dermatitis.

John M. Walker, M.D., Dubuque, Iowa.

ANSWER.—It is claimed that most welders have burns and photoerythema at some time during the course of their trade experience. Dermatitis due to the wearing of various protective equipment, such as leather gauntlets and rubber gloves, has been described. This, however, is a hypersensitivity to the particular article of clothing rather than any to part of the welding process. Certain metals used in welding may volatilize and give rise to cutaneous irritants. This is not usual, however. One could conceive that volatilization and condensation

on the skin or absorption through the respiratory tract of substances either being welded or constituents of the welding process might cause such trouble. The foreign literature makes more mention of such problems than the American, and the problems mentioned are not well founded in many instances.

CHLORIDE CONTENT OF WATER AS INDEX OF POLLUTION

To the Editor:—According to "Standard Methods of Chemical Analysis," by Scott, and to other textbooks, the chloride content of potable water is a good indication of the presence of sewage and one of the best indications as to the possible pollution of that water, especially in places in which the normal chloride content is known and the test is used as a check. I am unable to find any literature on this in the limited references I have available, and I should like to know how reliable this test might be.

David Hoehn, M.D., Fairbanks, Alaska.

ANSWER.—The chloride content of water is not a wholly dependable indication of pollution by sewage. It is true that water high in chlorides must be looked on with suspicion unless satisfactory explanation for the presence of chlorides in quantity can be made, such as proximity of the source to the sea or to some other source of brine. A more reliable index of pollution would be a bacterial analysis for coliform organisms, which are indicative of contamination by sewage. Large quantities of chlorides in water with much free and albuminoid ammonia and nitrites would strongly suggest pollution by sewage.

WATER SOFTENING

To the Editor:—Can you inform me whether or not there is any harm in drinking water that is run through a water softener? Softening, I believe, changes the calcium carbonates to potassium carbonates. Is there a danger of an excess of potassium salts? At one time there was some discussion of potassium salts being the cause of cancer. Is there any truth in this?

Edgar A. Schoenecker, M.D., Lake Mills, Wis.

ANSWER.—In zeolite water softeners the calcium of dissolved calcium bicarbonates is exchanged by sodium in the zeolite. Within normal limits there is usually no objection to this method of softening a domestic water supply. When the amount of dissolved salts is high this exchange may result in the water becoming more chemically active on such metals as aluminum, brass or iron than it was prior to softening. The U. S. Treasury Department standards for drinking and culinary water used on interstate carriers limits the carbonates of sodium and potassium taken together as normal calcium carbonate at 50 parts per million. There is no scientific evidence that potassium salts can cause cancer.

DETERMINATION OF GONADOTROPIC SUBSTANCES IN BLOOD

To the Editor:—I have been attempting the determination of gonadotropic substances in the blood according to the method outlined in Kracke and Parker's Textbook of Clinical Pathology, second edition, page 626. The technic calls for the injection of the serum into immature female white mice from 15 cc. of blood in 0.5 to 1 cc. doses. I presume that it makes no difference whether it is given subcutaneously or intraperitoneally, though I have given it twice daily subcutaneously. This caused the death of the mouse by the second day in the two that have been injected, with no gross changes demonstrable at autopsy. The serum was slightly hemolyzed when used. Can you tell me how we may avoid this?

M.D., Minden, Neb.

ANSWER.—The method recommended in the textbook has been adapted from Fluhmann's technic. Untoward results from injecting 0.5 cc. of serum subcutaneously into the back of the test animal have not been encountered in a considerable experience; 1 cc. occasionally will be injurious. The serum should be fresh and not hemolyzed. In cases of pregnancy it should be diluted with saline solution.

CHRONIC CYSTIC MASTITIS AND BREAST CANCER

To the Editor:—In The Journal, March 15, 1941, page 1186, in answer to a query, the statement is made that, if the clinical diagnosis of chronic cystic mastitis is correct, then one can be reasonably certain that the patient has little chance of having a carcinoma in the breast now or at a later date. On the basis of my observations, published in Surgery, Gynecology and Obstetrics (71:257 [Sept.] 1940) a woman with chronic cystic mastitis (proved by biopsy) has three times as great a chance of developing carcinoma as does the average woman in the Massachusetts population. In women having chronic mastitis and related lesions in the age group from 30 to 49, the breast cancer attack rate is eleven and seven-tenths times greater than it is for the total Massachusetts female population. Consequently I feel that one is forced to the conclusion that the presence of chronic cystic mastitis is conducive to the development of breast cancer.

Shields Warren, M.D., Boston.

